PROJECT MANUAL
for the construction of
VIRGINIA INTERNATIONAL GATEWAY
PHASE II EXPANSION

In-Gate Expansion
and Rail Portal Package
Solicitation No. IFB 2018-14

VOLUME 1 OF 2
Specifications

September 2017

Issued for Bid

Prepared for:

Prepared by:
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INVITATION TO BID

PROJECT: Virginia International Gateway Phase II Expansion – In-Gate Expansion and Rail Portal Package
Solicitation No. IFB 2018-14

LOCATION: Virginia International Gateway, The Port of Virginia

DATE: September 10, 2017

CONTACT INFORMATION: Virginia International Terminals, LLC
1000 Virginia International Gateway Blvd.
Portsmouth, Virginia 23703
Contact: Michael Petty
E-mail: mpetty@vit.org
Office Phone: 757-686-6449

Virginia Port Authority
600 World Trade Center
Norfolk, Virginia 23510
Contact: Al Collado
E-mail: acollado@portofvirginia.com
Office Phone: 757-201-9134

CH2M HILL
5701 Cleveland Street, Suite 200
Virginia Beach, Virginia 23462
Contact: Eric Venable, P.E.
E-mail: Eric.Venable@ch2m.com
Office Phone: 757-518-9666

Sealed Bids for construction of Virginia International Gateway Phase II Expansion – In-Gate Expansion and Rail Portal Package, addressed to Al Collado, Senior Director of Procurement, will be received at the office of the Virginia Port Authority, 600 World Trade Center, Norfolk, Virginia 23510, for the Virginia Port Authority (Owner) until 2:00 p.m., local time, on the 2nd day of October 2017. Bids will then be publicly opened and read. Any Bids received after the specified time will not be accepted or considered.

The Project contemplated consists of, but is not limited to, installation of a new rail portal monitoring (rpm) and optical character recognition (OCR) system consisting of a new metal building, concrete approach slabs, asphalt paving, electrical equipment, radiation portal foundations, and gate arms; expansion of the existing in-gate consisting of asphalt and concrete pavements, expansion of an existing metal canopy and electrical infrastructure, and ancillary infrastructure and equipment installation.
Rail Portal Work will be substantially complete by March 31, 2018; the In-Gate Expansion will be substantially complete by April 30, 2018.

The Work will be completed in all respects by May 30, 2018.

Bidding Documents (Drawings and Specifications) may be examined in the following offices: Engineer’s office, CH2M HILL, 5701 Cleveland Street, Suite 200, Virginia Beach, Virginia 23462.

Bidding Documents are available directly from:

A&E Reprographics, Inc.
100 Aragona Boulevard, #103
Virginia Beach, Virginia 23462
Phone: 757-518-0009

Bid documents can be viewed online at www.a-esupply.com.

Each Bid must be submitted on the prescribed Bid Form and accompanied by Bid security as prescribed in the Instructions to Bidders.

A mandatory prebid conference will be held on September 18, 2017 at 10 a.m. local time, at Virginia International Gateway, 1000 Virginia International Gateway Blvd., Portsmouth, Virginia 23703. All Contractors MUST pre-register with CH2M HILL a minimum of 1 day prior to the prebid conference. Contractors must provide a picture ID to obtain access to the site the day of the prebid conference. Access to the site will be limited to two representatives per pre-registered Contractor.

Successful Bidder will be required to furnish the necessary additional Bond(s) for the faithful performance of the Work, as prescribed in the Bidding Documents.

In order to perform public work, the Successful Bidder and subcontractors shall hold or obtain such licenses as required by Commonwealth Statutes, and federal and local Laws and Regulations.

Each Bidder shall be required to comply with Executive Order No. 112461, BEC 202, dated September 24, 1965, and shall not discriminate against any employee or applicant for employment because of race, color, creed, or national origin.

Each Bidder shall be required to comply with attached Notice of Requirements for Affirmative Action to Ensure Equal Employment Opportunity (Executive Order 11246 and 41 CFR Part 60-4).
Bidders are required under Title 54, Chapter 7, Code of Virginia, to show evidence of certificate of registration before Bid may be received and consideration on a general contract or subcontract of $40,000 or more, in accordance with the Instructions to Bidders.

For information concerning the proposed Work, contact Michael Petty, Virginia International Terminals, LLC., 1000 Virginia International Gateway Blvd., Portsmouth, Virginia 23703, telephone: 757-686-6449. All questions must be submitted in writing to mpetty@vit.org with a subject line titled VIG Phase II Expansion – In-Gate Expansion and Rail Portal Package Bid Question. Copy Al Collado, acollado@portofvirginia.com.

Owner’s right is reserved to reject all Bids or any Bid not conforming to the intent and purpose of the Bidding Documents.

Dated this 10th day of September 2017.

Virginia Port Authority

Al Collado
Senior Director, Procurement

END OF SECTION
INSTRUCTIONS TO BIDDERS

1. DEFINED TERMS

1.1. Terms used in these Instructions to Bidders have the meanings indicated in the General Conditions and Supplementary Conditions. Additional terms used in these Instructions to Bidders have the meanings indicated below:

1.1.1. Issuing Office—The office from which the Bidding Documents are to be issued and where the bidding procedures are to be administered.

1.1.2. Apparent Low Bidder—that Bidder whose Bid as offered in the Bid Form represents the lowest total as determined by the Base Bid.

1.1.3. Successful Bidder—lowest, responsible and responsive Bidder to whom Owner (on the basis of Owner’s evaluation as hereinafter provided) makes an award.

2. COPIES OF BIDDING DOCUMENTS

2.1. Complete sets of the Bidding Documents in the number and for the deposit sum, if any, stated in the Invitation to Bid may be obtained from the Issuing Office.

2.2. Complete sets of Bidding Documents shall be used in preparing Bids. Neither Owner nor Engineer assumes responsibility for errors or misinterpretations resulting from use of incomplete sets of Bidding Documents.

2.3. The Drawings bound in the Bidding Documents are photographic reductions of original tracings. Amount of reduction is indicated by a note or scale bar on Drawing. Full-size Drawings may be obtained from Engineer at cost of reproduction and handling, plus postage for mailing (if mailing is requested). Drawings will only be made available to firms listed as having complete sets of Bidding Documents. No return of full-size Drawings is required, and no refund will be made.

2.4. Owner and Engineer, in making copies of Bidding Documents made available on the above terms, do so only for the purpose of obtaining Bids for the Work and do not authorize or confer a license or grant for any other use.

3. QUALIFICATIONS OF BIDDERS

3.1. In order to perform public work, Bidder and its Subcontractors, prior to award of Contract or as otherwise required by the jurisdiction, shall hold or obtain such licenses as required by State Statutes, and federal and local Laws and Regulations.
3.2. The Contractor’s Questionnaire is included in the Bid Documents and shall be submitted upon request within 24 hours. The Owner will make such requests after Bid Opening. This information will assist the Owner in investigations and determination of the Contractor’s qualifications to perform the work.

3.2.1. As part of the Questionnaire, the Bidder shall demonstrate evidence of having successfully completed projects of similar nature. The Bidder’s successful experience relative to projects of similar nature, scope, and duration is a primary factor in determining Bidder’s responsiveness and responsibility. Bidder shall be fully knowledgeable, competent, and experienced and shall meet minimum requirements herein for the construction on projects related to new construction or rehabilitation of port and terminal facilities at port and marine terminals. The Bidder and their designated superintendent shall have successfully completed projects of similar size and complexity as follows:

3.2.1.1. Bidder shall have successfully completed, based on the sole opinion of the Owner, at least two projects within the past 5 years involving construction of utilities, paving, and gate or rail structures such as canopies and/or prefabricated metal buildings. Completed projects should have involved maintaining continuous operation of Owner’s facilities without disruption to ongoing operations. Projects shall be of similar complexity, field conditions, and contract value as that proposed herein.

3.2.1.2. Referenced projects should have been successfully completed within the original or amended contract times. Bidder should not have been assessed liquidated damages on any of the referenced projects.

3.2.1.3. Bidder shall have acted as the prime contractor for the referenced projects.

3.2.1.4. For the referenced projects, Bidder shall provide project titles, descriptions of work, Owner’s and Engineer’s names, addresses, and telephone numbers, completion dates, and contract value. Attach additional pages to the Questionnaire as necessary to provide this information. Failure to provide the above-mentioned information may result in the Bidder being deemed unresponsive.

3.2.1.5. Additional information related to project references may be requested after the Questionnaire is received if, in the opinion of the Owner, the information submitted is insufficient to complete evaluation of the Bidder’s responsibility.
3.3. To demonstrate qualification to perform the Work, each Bidder shall be prepared to submit further written satisfactory evidence that the Bidder has sufficient experience, necessary capital, materials, machinery, and skilled workers to complete the Work. If financial statements are required, they shall be of such date as the Owner shall determine and shall be prepared on forms acceptable to the Owner. The Owner may make such investigations as deemed necessary to determine the ability of the Bidder to perform the Work. The Owner’s decision and judgment of these matters shall be final, conclusive and binding.

3.4. The apparent low Bidder shall, within 7 consecutive calendar days after the day of the Bid opening, submit to the Owner a list of all Subcontractors who will be performing work on the Agreement. Such list shall be accompanied by an experience statement with pertinent information as to similar projects and other evidence of experience and qualifications for each Subcontractor, person, and organization. If the Owner, after due investigation, has reasonable objection to any proposed Subcontractor, other person or organization, the Owner may, before giving the Notice of Award, request the apparent low Bidder to submit an acceptable substitute without an increase in the Bid price. If the apparent low Bidder declines to make any such substitution, The Contract shall not be awarded to such Bidder, but declining to make any such substitution will not constitute ground for sacrificing the Bid Security. For any Subcontractor, other person, or organization so listed and to whom Owner does not make written objection prior to the giving of the Notice of Award, it will be deemed the Owner has no objection.

3.5. By submitting their Bid, Bidders certify that neither they nor their subcontractors are debarred from federal government or by the Commonwealth of Virginia or by any other state, or by any town, city or county, nor are they an agent of any person or entity that is now so debarred.

4. PROVISIONS FOR NEGOTIATION WITH LOW BIDDER

4.1. When the low bid exceeds available funds, the VPA is authorized to negotiate with the lowest responsive and responsible bidder. In all cases, a record of the negotiations will become a part of the procurement file for the Project.

4.2. Negotiation with Lowest Responsible Bidder: If award of a contract to the lowest responsive and responsible bidder is precluded because of limitations on available funds, the VPA reserves the right to negotiate the Total Base Bid amount with the lowest responsive, responsible bidder to obtain a contract price within the available funds. **This may involve changes in either the features or scope of Work included in the Base Bid.** Such negotiations with the apparent low bidder may include reducing quantity, quality, or other cost-saving mechanisms involving items in the Total Base Bid. Negotiations for Additive Bid Items are excluded. The VPA shall notify the lowest responsive and responsible bidder that such a situation exists.
and the VPA and bidder shall then conduct their negotiations in person, by mail, by telephone or by any means they find convenient. If an acceptable contract can be negotiated, the changes to the Invitation for Bid documents agreed upon in the negotiations shall be summarized in a Post-Bid Modification and included in the contract. If an acceptable contract cannot be negotiated, the VPA shall terminate negotiations and reject all bids.

5. REGISTRATION REQUIREMENTS

5.1. Contractors, whether resident or nonresident in Virginia, are required to show evidence of a certificate of registration as required by Code of Virginia 54.1-1112 before their Bids will be considered.

5.2. In accordance with Code of Virginia 54.1-1113, before submitting Bid, nonresident Bidder shall, by written power of attorney, appoint the Director of Occupational and Professional Regulation as its agent upon whom all lawful process against or notice to such nonresident Bidder may be served, and authorize the Director to enter an appearance on its behalf.

5.3. In addition, foreign corporations and other entities must be registered with the Virginia State Corporation Commission (SCC) to do business in Virginia pursuant to the requirements of Title 13.1 of the Virginia Code. See the SCC website at https://www.scc.virginia.gov/clk/faq/faq.aspx#a1 for further information on such requirements.

6. EXAMINATION OF BIDDING DOCUMENTS, OTHER RELATED DATA, AND SITE

6.1. Subsurface and Physical Conditions:

6.1.1. The Supplementary Conditions identify:

6.1.1.1. Those reports known to Owner of explorations and tests of subsurface conditions at or contiguous to the Site that the Engineer has used in preparing the Bid Documents.

6.1.1.2. Those drawings known to Owner of physical conditions relating to existing surface and subsurface structures at or contiguous to the Site (except Underground Facilities) that the Engineer has used in preparing the Bidding Documents.

6.1.2. Copies of reports and drawings referenced will be made available by Owner to any Bidder on request. The “technical data” contained therein upon which Bidder is entitled to rely as provided in Paragraph 5.03 of the General Conditions has been identified and established in Paragraph 5.03 of the
Supplementary Conditions. Bidder is responsible for any interpretation or conclusion Bidder draws from any “technical data” or any other data, interpretations, opinions, or information contained in such reports or shown or indicated in such drawings. Costs associated with making available copies of reports and drawings shall be borne by Bidder.

6.2. Underground Facilities: Information and data shown or indicated in the Bidding Documents with respect to existing underground facilities at or contiguous to the Site is based upon information and data furnished to Owner and Engineer by owners of such underground facilities, including Owner or others.

6.3. Hazardous Environmental Condition:

6.3.1. The Supplementary Conditions identify reports and drawings known to Owner relating to any Hazardous Environmental Condition identified at the Site.

6.3.2. Copies of reports and drawings referenced will be made available by Owner to any Bidder on request. Those reports and drawings are not part of the Contract Documents, but the “technical data” contained therein upon which Bidder is entitled to rely as provided in Paragraph 5.06 of the General Conditions has been identified and established in Paragraph 5.06 of the Supplementary Conditions. Bidder is responsible for any interpretation or conclusion Bidder draws from any “technical data” or any other data, interpretations, opinions, or information contained in such reports or shown or indicated in such drawings. Costs associated with making available copies of reports and drawings shall be borne by Bidder.

6.4. Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders with respect to subsurface conditions, other physical conditions, and Underground Facilities, and possible changes in the Bidding Documents due to differing or unanticipated subsurface or physical conditions appear in Paragraph 5.03 through Paragraph 5.05 of the General Conditions. Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders with respect to a Hazardous Environmental Condition at the Site, if any, and possible changes in the Contract Documents as a result of any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work, appear in Paragraph 5.06 of the General Conditions.

6.5. On request, Owner will provide each Bidder access to the Site to conduct such examinations, investigations, explorations, tests, and studies as Bidder deems necessary for submission of a Bid. Bidder shall fill all holes and clean up and restore the Site to its former condition upon completion of such explorations, investigations,
tests, and studies. Bidder shall comply with all applicable Laws and Regulations relative to excavation and utility locates.

6.6. Related Work at Site: Reference is made to the General Requirements for identification of the general nature of other work that is to be performed at the Site by Owner or others (such as utilities, erection of cranes, and other wharf construction, rail yard construction, and stack yard construction prime contractors) that relates to the Work contemplated by these Bidding Documents. On request Owner will provide to each Bidder for examination, access to or copies of contract documents (other than portions thereof related to price) for such other work.

6.7. Safety: Paragraph 7.12.C of the General Conditions indicates that if an Owner safety program exists, it will be noted in the Supplementary Conditions.

6.8. It is responsibility of each Bidder before submitting a Bid to:

6.8.1. Examine and carefully study the Bidding Documents, other related data identified in the Bidding Documents, and any Addenda.

6.8.2. Visit the Site to become familiar with and satisfy Bidder as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.

6.8.3. Become familiar with and satisfy Bidder as to all federal, state, and local Laws and Regulations that may affect cost, progress, and performance of the Work.

6.8.4. Carefully study all:

6.8.4.1. Reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities) that have been identified in Paragraph 5.03 of the Supplementary Conditions as containing reliable “technical data.”

6.8.4.2. Reports and drawings of Hazardous Environmental Conditions, if any, at the Site that have been identified in Paragraph 5.06 of the Supplementary Conditions as containing reliable “technical data.”

6.8.5. Consider the information known to Bidder; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and the Site-related reports and drawings identified in the Bidding Documents,
with respect to the effect of such information, observations, and documents on:


6.8.5.2. Means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, including applying any specific means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents.

6.8.5.3. Bidder’s safety precautions and programs.

6.8.6. Agree at the time of submitting its Bid that no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of its Bid for performance of the Work at the price(s) Bid and within the times required, and in accordance with the other terms and conditions of the Bidding Documents.

6.8.7. Become aware of the general nature of the work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.

6.8.8. Promptly give Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder discovers in Bidding Documents and confirm that written resolution thereof by Engineer is acceptable to Bidder.

6.8.9. Determine Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance of the Work.

6.9. Submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of this article; that without exception the Bid is premised upon performing and furnishing the Work required by Bidding Documents and applying specific means, methods, techniques, sequences, and procedures of construction that may be shown or indicated or expressly required by Bidding Documents; that Bidder has given Engineer written notice of all conflicts, errors, ambiguities, and discrepancies that Bidder has discovered in Bidding Documents and the written resolutions thereof by Engineer are acceptable to Bidder; and that Bidding Documents are generally sufficient to indicate and convey understanding of terms and conditions for performing and furnishing the Work.

7. PREBID CONFERENCE

7.1. A mandatory prebid conference will be held on September 18, 2017 at 10 a.m. local time at Virginia International Gateway, 1000 Virginia International Gateway Boulevard, Portsmouth, Virginia 23703. Representatives of Owner and Engineer will
be present to discuss the Project. Bidders are required to attend and participate in the conference. All Contractors **MUST** pre-register with CH2M HILL a minimum of 1 day prior to the pre-bid conference. Contractors must provide a picture ID to obtain access to the project site the day of the pre-bid conference. Access to the project site will be limited to two representatives per pre-registered Contractor. Bids will not be accepted from Bidders that do not have a representative at the prebid conference.

7.2. No site visits are allowed to the project site prior to the mandatory prebid conference. Oral statements may not be relied upon and will not be binding or legally effective. Addenda to the IFB will be published on the eVA website (https://eva.virginia.gov/), and will be sent to Bidders. Bidders are responsible for checking the eVA website for addenda.

8. **SITE AND OTHER AREAS**

8.1. The Site is identified in the Bidding Documents. Easements for permanent structures or permanent changes in existing facilities are to be obtained and paid for by Owner, unless otherwise provided in the Bidding Documents. All additional lands and access thereto required for temporary construction facilities, construction equipment, or storage of materials and equipment to be incorporated in the Work are to be obtained and paid for by Contractor.

9. **INTERPRETATIONS AND ADDENDA**

9.1. All questions about the meaning or intent of the Bidding Documents are to be submitted to Owner in writing, e-mail to mpetty@vit.org with a subject line titled **VIG Phase II Expansion – In-Gate Expansion and Rail Portal Package Bid Question**. Send a copy of questions to acollado@portofvirginia.com. Interpretations or clarifications considered necessary by Engineer in response to such questions will be issued by Addenda published on the eVA website (https://eva.virginia.gov/). Questions received less than 7 days prior to the date for opening of Bids will not be answered. Only questions answered by Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.

9.2. Addenda may also be issued to clarify, correct, or change the Bidding Documents as deemed advisable by Owner or Engineer.

10. **BID SECURITY**

10.1. Bid shall be accompanied by Bid security made payable to Owner in an amount of 5 percent of Bidder’s maximum Bid price, including Options and/or alternate bid items, and in the form of a certified check, bank money order, or a penal Bid bond (on the attached form), issued by a surety meeting the requirements of Paragraph 6.01 of the General Conditions.
10.2. The Bid security of the Successful Bidder will be retained until such Bidder has executed the Contract Documents, furnished the required contract security and met the other conditions of the Notice of Award, whereupon the Bid security will be returned. If the Successful Bidder fails to execute and deliver the Contract Documents and furnish the required contract security within the time period specified in Article Signing of Agreement, Owner may consider Bidder to be in default, annul the Notice of Award, and the Bid security of that Bidder will be forfeited. Such forfeiture shall be Owner’s exclusive remedy if Bidder defaults. Bid security of other Bidders whom Owner believes to have a reasonable chance of receiving the award may be retained by Owner until the earlier of the 7th day after the Effective Date of the Agreement or the number of days specified for all Bids to remain subject to acceptance in Article Bids to Remain Subject to Acceptance, whereupon Bid security furnished by such Bidders will be returned.

10.3. Bid security of other Bidders whom Owner believes do not have a reasonable chance of receiving the award will be returned within 7 days after Bid opening.

11. CONTRACT TIMES

11.1. The number of days, or the dates, by which the Work is to be substantially completed, and by which the Work is to be finally completed and ready for final payment, are set forth in the Agreement.

12. LIQUIDATED DAMAGES

12.1. Provisions for liquidated damages, if any, are set forth in the Supplementary Conditions.

13. SUBSTITUTE AND “OR-EQUAL” ITEMS

13.1. In some cases, as noted in the Contract Documents, the Owner has selected specific equipment to be used on this project. When this is the case, the Contractor shall provide the equipment specified and no alternative name manufacturers will be permitted.

13.2. Unless otherwise provided in the Contract Documents, when the Contract Documents specify particular brands, makes, suppliers, or manufacturers, such items have been determined by the Owner to be acceptable. Whether or not accompanied by the statement, “or-equal” in the Contract Documents, the name of a certain brand, make or manufacturer/supplier does not restrict the Bidders to the specific brand, make, or manufacturer/supplier named; it conveys the general style, type, character, and quality of the item desired, and any item which the Owner, in its sole discretion, determines to be equal to that specified, considering quality, workmanship, economy of operation, and suitability of purpose intended, shall be accepted.
13.3. The burden of proof as to the comparative quality of and suitability of alternative equipment, articles, or materials shall be upon the Bidder. The Bidder shall furnish at its own expense, such information relating thereto as may be required by the Owner. The Owner shall be the sole judge as to the comparative quality and suitability of alternative equipment, articles, or materials and the Owner’s decisions shall be final. In the event of an adverse decision by the Owner, no claim of any sort shall be made or allowed against the Engineer or Owner.

14. EMPLOYMENT REQUIREMENTS

14.1. During the performance of Contract, Contractor agrees as follows:

14.1.1. Contractor shall not discriminate against any employee or applicant for employment because of race, religion, color, sex, national origin, age, disability, or other basis prohibited by state law relating to discrimination in employment, except where there is a bona fide occupational qualification reasonably necessary to normal operation of Contractor. Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth provisions of this nondiscrimination clause.

14.1.2. Contractor, in solicitations or advertisements for employees placed by or on behalf of Contractor, shall state that Contractor is an equal opportunity employer.

14.1.3. Notices, advertisements and solicitations placed in accordance with federal law, rule or regulation shall be deemed sufficient for purpose of meeting these requirements.

14.1.4. Contractor shall include provisions of above paragraphs in every subcontract or purchase order over $10,000, so provisions shall be binding upon each Subcontractor or Supplier.

15. PREPARATION OF BID

15.1. With each copy of the Bidding Documents, Bidder will be furnished one separate unbound copy of the Bid Form, and, if applicable, the Bid Bond Form. No substitution of the Bid Form will be allowed.

15.2. All blanks on the Bid Form shall be completed by typing or printing with ink and the Bid Form signed in ink. Erasures or alterations shall be initialed in ink by the person signing the Bid Form. A Bid price shall be indicated for each Bid item listed therein or the words “No Bid,” “No Change,” or “Not Applicable” entered.
15.3. A Bid by a corporation shall be executed in the corporate name by the president or a vice president or other corporate officer accompanied by evidence of authority to sign. The corporate seal shall be affixed and attested by the secretary or an assistant secretary. The corporate address and state of incorporation shall be shown.

15.4. A Bid by a partnership shall be executed in the partnership name and signed by a partner (whose title must appear under the signature), accompanied by evidence of authority to sign. The official address of the partnership shall be shown.

15.5. A Bid by a limited liability company shall be executed in the name of the firm by a member and accompanied by evidence of authority to sign. The state of formation of the firm and the official address of the firm shall be shown.

15.6. A Bid by an individual shall show the Bidder’s name and official address.

15.7. A Bid by a joint venture shall be executed by each joint venturer in the manner indicated on the Bid Form. The official address of the joint venture shall be shown.

15.8. All names shall be typed or printed in ink below the signatures.

15.9. The Bid shall contain an acknowledgement of receipt of all Addenda; the numbers of which shall be filled in on the Bid Form.

15.10. Postal and e-mail addresses and telephone number for communications regarding the Bid shall be shown.

15.11. The Bid shall contain evidence of Bidder’s authority and qualification to do business in the Commonwealth of Virginia.

16. BASIS OF BID; COMPARISON OF BIDS

16.1. Lump Sum:

16.1.1. Bidders shall submit a Bid on a lump sum basis as set forth in the Bid Form.

16.2. Unit Price:

16.2.1. Bidders shall submit a Bid on a unit price basis for each item of Work listed in the Bid schedule.

16.2.2. The total of all estimated prices will be the sum of the products of the estimated quantity of each item and the corresponding unit price. The final quantities and Contract Price will be determined in accordance with Paragraph 13.03 of the General Conditions.
16.2.3. Discrepancies between the multiplication of units of Work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum.

16.3. The Basis of Bid will consist of Lump Sum and Unit Price work, the sum of which will be used for comparison of bids.

17. SUBMISSION OF BID

17.1. The unbound copy of the Bid Form is to be completed and submitted with the Bid security and the following data:

17.1.1. Evidence of authority to do business in the Commonwealth of Virginia.

17.1.2. Contractor’s license registration number or evidence of Bidder’s ability to obtain a State Contractor’s License and a covenant by Bidder to obtain said license within the time for acceptance of Bids.

17.1.3. Noncollusion Affidavit, as required by Code of Virginia 18.2-498.4.

17.2. A Bid shall be submitted no later than the date and time prescribed, and at the place indicated in the Invitation to Bid. Enclose Bid in a plainly marked package with the Project title (and, if applicable, the designated portion of the Project for which the Bid is submitted), name and address of Bidder, and accompanied by the Bid security and other required documents. If a Bid is sent by mail or other delivery system, the sealed envelope containing the Bid shall be enclosed in a separate package plainly marked on the outside with the notation “BID ENCLOSED.”

18. MODIFICATION AND WITHDRAWAL OF BID

18.1. A Bid may be modified or withdrawn by an appropriate document duly executed in the same manner that a Bid must be executed and delivered to the place where Bids are to be submitted prior to the date and time for the opening of Bids.

18.2. If within 24 hours after Bids are opened any Bidder files a duly signed written notice with Owner and promptly thereafter demonstrates to the reasonable satisfaction of Owner that there was a material and substantial mistake in the preparation of its Bid, that Bidder may withdraw its Bid, and the Bid security will be returned. Thereafter, if the Work is rebid, that Bidder will be disqualified from further bidding on the Work.
19. OPENING OF BIDS

19.1. Bids will be opened at the time and place indicated in the Invitation to Bid and unless obviously nonresponsive, read aloud publicly. An abstract of the amounts of the base Bids and major alternates, if any, will be made available to Bidders after the opening of Bids.

20. BIDS TO REMAIN SUBJECT TO ACCEPTANCE

20.1. All Bids will remain subject to acceptance for the period of time stated in the Bid Form, but Owner may, in its sole discretion, release any Bid and return the Bid security prior to the end of this period.

21. EVALUATION OF BIDS AND AWARD OF CONTRACT

21.1. Owner reserves the right to reject any or all Bids, including without limitation, nonconforming, nonresponsive, unbalanced or conditional Bids. Owner further reserves the right to reject the Bid of any Bidder whom it finds, after reasonable inquiry and evaluation, to not be responsible. Owner may also reject the Bid of any Bidder if Owner believes that it would not be in the best interest of the Project to make an award to that Bidder. Owner also reserves the right to waive all informalities not involving price, time, or changes in the Work and to negotiate contract terms with the Successful Bidder.

21.2. More than one Bid for the same Work from an individual or entity under the same or different names will not be considered. Reasonable grounds for believing that any Bidder has an interest in more than one Bid for the Work may be cause for disqualification of that Bidder and the rejection of all Bids in which that Bidder has an interest.

21.3. In evaluating Bids, Owner will consider whether or not the Bids comply with the prescribed requirements, and such alternates, unit prices, and other data, as may be requested in the Bid Form or prior to the Notice of Award.

21.4. In evaluating Bidders, Owner may consider the qualifications of Bidders and may consider the qualifications and experience of Subcontractors, Suppliers, and other individuals or entities proposed for those portions of the Work for which the identity of Subcontractors, Suppliers, and other individuals or entities must be submitted either with the Bid, or otherwise prior to issuance of the Notice of Award.

21.5. Owner may conduct such investigations as Owner deems necessary to establish responsibility, qualifications, and financial ability of Bidders, proposed Subcontractors, Suppliers, individuals, or entities proposed for those portions of the Work in accordance with the Contract Documents.
22. CONTRACT SECURITY AND INSURANCE

22.1. Article 6 of the General Conditions, as may be modified by the Supplementary Conditions, sets forth Owner’s requirements as to bonds and insurance. When Successful Bidder delivers executed Agreement to Owner, it shall be accompanied by such bonds.

23. SIGNING OF AGREEMENT

23.1. When Owner issues a Notice of Award to Successful Bidder, it shall be accompanied by the required number of unsigned counterparts of the Agreement along with the other Contract Documents that are identified in the Agreement as attached thereto. Within 7 days thereafter, Successful Bidder shall sign and deliver the required number of counterparts of the Agreement and attached documents to Owner. Within 10 days thereafter, Owner shall deliver one fully signed counterpart to Successful Bidder with a complete set of the Drawings with appropriate identification.

24. RETAINAGE

24.1. Provisions concerning retainage and Contractor’s rights to deposit securities in lieu of retainage, if applicable, are set forth in the Agreement.

END OF SECTION
HAZARD COMMUNICATION PROGRAM

DATE: ____________________________

TO: ____________________________________

______________________________________

______________________________________

In order to comply with the Virginia Occupational Safety and Health Hazard Communication Standards (1910-1200), you are hereby advised that there are several known hazardous materials which are used routinely in this facility. Your employees may be exposed to them upon visiting this site. For your review, there are copies of the relevant Material Safety Data Sheets (MSDSs) available in the Administration office. In addition, we strongly urge that your employees abide by all posted safety signs and enter only those areas necessary to their visit.

Sincerely,

______________________________________

Safety Coordinator
INDEMNIFICATION FROM CLAIMS

DATE: __________________________

TO: __________________________________________

__________________________________________

__________________________________________

Please accept this letter as our firm’s indemnification of the Virginia Port Authority, Virginia International Terminals, LLC., Commonwealth of Virginia, and Virginia International Gateway for any claims arising from injury, damage, or loss sustained by our employee(s) resulting from their entry upon Virginia International Gateway property for the purpose of reviewing work

☐ as proposed under the Invitation to Bid for the _____________ (project)

or

☐ as requested by the _____________ (client)

I acknowledge and agree to hold the Virginia Port Authority, Virginia International Terminals, LLC., Commonwealth of Virginia, and Virginia International Gateway harmless from any such claims and by signing this agreement certify that I am an authorized agent or officer of the firm listed below and have the authority to execute such an indemnification.

Sincerely,

__________________________________________

Date

__________________________________________

Signature
NOTE TO BIDDER: Use typewriter or ink for completing this Bid Form.

BID FORM
(STIPULATED PRICE BASIS)

1. BID RECIPIENT

1.1. This Bid is submitted to:

To: Al Collado, Senior Director of Procurement
Virginia Port Authority
Address: 600 World Trade Center
Norfolk, Virginia 23510

Project Identification: Virginia International Gateway Phase II Expansion –
In-Gate Expansion and Rail Portal Package

1.2. The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Owner in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

2. BIDDER’S ACKNOWLEDGEMENTS

2.1. Bidder accepts all of the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. This Bid will remain subject to acceptance for 90 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.

3. BIDDER’S REPRESENTATIONS

3.1. In submitting this Bid, Bidder represents that:

3.1.1. Bidder has examined and carefully studied the Bidding Documents, the other related data identified in the Bidding Documents, and the following Addenda, receipt of which is hereby acknowledged.

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(Bidder shall insert number of each Addendum received.)
3.1.2. Bidder has visited the Site and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.

3.1.3. Bidder is familiar with and is satisfied as to all Laws and Regulations that may affect cost, progress, and performance of the Work.

3.1.4. Bidder has carefully studied: 1) reports of explorations and tests of subsurface conditions at or contiguous to the Site and drawings of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities) which have been identified in Paragraph 5.03 of the Supplementary Conditions as containing reliable “technical data”; and 2) reports and drawings of Hazardous Environmental Conditions, if any, at the Site that have been identified in Paragraph 5.06 of the Supplementary Conditions as containing reliable “technical data.”

3.1.5. Bidder has considered the information known to Bidder; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and the Site-related reports and drawings identified in the Bidding Documents, with respect to the effect of such information, observations, and documents on 1) the cost, progress, and performance of the Work; 2) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, including applying the specific means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents; and 3) Bidder’s safety precautions and programs.

3.1.6. Based on information and observations referred to in paragraph above, Bidder does not consider that further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price(s) Bid and within the times required, and in accordance with the other terms and conditions of the Bidding Documents.

3.1.7. Bidder is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.

3.1.8. Bidder has given Engineer written notice of conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and the written resolution thereof by Engineer is acceptable to Bidder.
3.1.9. The Bidding Documents are generally sufficient to indicate and convey understanding of terms and conditions for the performance of the Work for which this Bid is submitted.

4. **BIDDER’S CERTIFICATION**

4.1. Bidder certifies:

4.1.1. This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive agreement or rules of any group, association, organization or corporation;

4.1.2. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid;

4.1.3. Bidder has not solicited or induced any individual or entity to refrain from bidding; and

4.1.4. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this paragraph:

4.1.4.1. “corrupt practice” means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the bidding process;

4.1.4.2. “fraudulent practice” means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of Owner, (b) to establish Bid prices at artificial noncompetitive levels, or (c) to deprive Owner of the benefits of free and open competition;

4.1.4.3. “collusive practice” means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish Bid prices at artificial, noncompetitive levels; and

4.1.4.4. “coercive practice” means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.
4.1.5. Required sales and use taxes are included in the stated Bid prices for the Work unless provision is made herein for the Bidder to separately itemize the estimated amount of sales tax or if Instructions to Bidders state Owner is tax exempt.

4.1.6. Nonresident Bidders: In accordance with Code of Virginia 54.1-1113, Bidder certifies the Director of Occupational and Professional Regulation has been appointed as its agent upon whom lawful process against or notice may be served.

5. BASIS OF BIDS

5.1. Bidder shall complete the Work in accordance with the Contract Documents for the following price(s):

5.2. Lump Sum Bid Price: $__________________________.

5.3. Base Bid Summary:

5.3.1. Base Bid (Total of Above): $__________________________.

6. TIME OF COMPLETION

6.1. Bidder agrees the Work, and any Milestones specified in Section 01 31 13, Project Coordination, will be substantially complete and will be completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions on or before the dates, or within the number of calendar days, indicated in the Agreement.

6.2. Bidder accepts the provisions of the Agreement as to liquidated damages in the event of failure to complete the Work, and any specified Milestones, within the Contract Times.

7. ATTACHMENTS TO THIS BID

7.1. The following documents are submitted with and made a condition of this Bid:

7.1.1. Required Bid security in the form of Bid bond.

7.1.2. Noncollusion Affidavit.

7.1.3. Contractor’s License No.: ____________. Evidence of Bidder’s ability to obtain a State Contractor’s License and a covenant by Bidder to obtain said license within the time for acceptance of Bids.
8. DEFINED TERMS

8.1. The terms used in this Bid with initial capital letters have the meanings stated in the Instructions to Bidders, the General Conditions, and the Supplementary Conditions.

9. BID SUBMITTAL

9.1. This Bid submitted by:

If Bidder is:

An Individual
Name (typed or printed): _______________________________
By (signature): _______________________________
Doing business as: _______________________________

A Partnership
Partnership Name: _______________________________ (SEAL)
By: _______________________________
(Signature of general partner – attach evidence of authority to sign)
Name (typed or printed): _______________________________

A Corporation
Corporation Name: _______________________________ (SEAL)
State of Incorporation: _______________________________
Type (General Business, Professional, Service, Limited Liability): ___
By: _______________________________
(Signature – attach evidence of authority to sign)
Name (typed or printed): _______________________________
Title: _______________________________ (CORPORATE SEAL)
Attest: _______________________________
(Signature of Corporate Secretary)

Date of Qualification to do business in the Commonwealth of Virginia is: _______________________________.
A Joint Venture

Joint Venturer Name: ______________________________ (SEAL)

By: ______________________________

(Signature of joint venture partner – attach evidence of authority to sign)

Name (typed or printed): ______________________________

Title: ______________________________

(Each joint venturer must sign. The manner of signing for each individual, partnership, and corporation that is a party to the joint venture should be in the manner indicated above.)

Bidder’s Business Address: ______________________________

______________________________

______________________________

Phone No.: ______________________________ FAX No.: ______________________________

E-mail: ______________________________

SUBMITTED on ______________________________, 20________

Virginia Contractor’s License No.: ______________________________

Contractor’s License Class (where applicable): ______________________________

Bidder is a resident of Virginia: ______ Yes ______ No

END OF SECTION
VIRGINIA INTERNATIONAL GATEWAY—PHASE II EXPANSION
IN-GATE EXPANSION AND RAIL PORTAL PACKAGE

VIRGINIA BID BOND

BOND NO. ________________

AMOUNT: (5 percent of Bid amount)

KNOW ALL MEN BY THESE PRESENTS, that ________________ hereinafter called the Principal, and ____________________________ a corporation, limited liability company, limited liability partnership, partnership, or joint venture duly organized under the laws of the State of ____________________________ having its principal place of business at ____________________________ in the State of ____________________________, and authorized to do business in the Commonwealth of Virginia, as Surety, are held and firmly bound unto the Virginia Port Authority, as Owner, hereinafter called the Obligee, in the sum of (5 percent of Bid amount) DOLLARS ($______________) for the payment for which we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS BOND IS SUCH THAT:

WHEREAS, the Principal is herewith submitting his or its Bid for Virginia International Gateway Phase II Expansion – In-Gate Expansion and Rail Portal Package, said Bid, by reference thereto, being hereby made a part hereof.

NOW, THEREFORE,

A) If the Bid shall remain open for a period of not less than 90 days following opening of the Bids and be rejected, or in the alternate,

B) If the Bid shall remain open for a period of not less than 90 days following opening of the Bids and be accepted and the Principal shall execute and deliver a Contract in the form of Contract attached hereto (properly completed in accordance with the Bid) and shall furnish a bond for his faithful performance of the Contract, and for the payment of all persons performing labor or furnishing materials in connection therewith, for the period of time stipulated, and shall in all other respects perform the agreement created by the acceptance of the Bid,
THEN, this obligation shall be void; otherwise the same shall remain in force and effect, it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall, in no event, exceed the said amount of this obligation as herein stated. Provided, however, that in addition to the amount of this obligation as herein stated, the Surety shall be liable for all costs and attorney’s fees incurred by the Obligee in enforcing the obligations hereunder.

The Surety, for value received, hereby stipulates and agrees that the obligations of the Surety and its bond shall be in no way impaired or affected by any extension of the time within which the Owner may accept such Bid; and the Surety does hereby waive notice of such extension.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals, and have executed this instrument in six separately signed counterparts, each one of which shall be deemed an original, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, the day and year first set forth above.

Signed and sealed this ____________ day of __________________________ 20____.

PRINCIPAL

By __________________________________

SURETY

By __________________________________

Attorney-In-Fact

IMPORTANT: The Surety executing bonds must appear on the Treasury Department’s most current list (Circular 570 as amended) and be authorized to transact business in the Commonwealth of Virginia.

END OF SECTION
NONCOLLUSION AFFIDAVIT

Each Bidder shall complete the following statement

STATE OF ____________________________

COUNTY OF ____________________________

That (s)he is the agent authorized by the Bidder to submit the attached Bid. Affiant further states that the Bidder has not been a party to any collusion among Bidders in restraint of freedom of competition by agreement to bid at a fixed price or to refrain from bidding; or with any State, County, or City official or employee as to quantity, quality, or price in the prospective Contract, or any other terms of said prospective contract; or in any discussions between Bidders and any State, County, or City official concerning exchange of money or other thing of value for special consideration in the letting of a contract.

Affiant further warrants that no person or selling agency has been employed or retained to solicit or secure such contract upon an agreement or understanding for a commission, percentage, brokerage or contingent fee, except bona fide employees or bona fide established commercial or selling agencies maintained by the Contractor for the purpose of securing business.

_____________________________________

Name of Contractor

_____________________________________

Bidder (Affiant)

Subscribed and sworn to before me this ______ day of ____________, 20 ______

My commission expires: ________________________________

_____________________________________

Notary Public

END OF SECTION
CONTRACTOR’S QUESTIONNAIRE

If requested by the Owner, the following questions shall be answered in full by the Bidder, and returned to the Owner within 24 hours of a request for same by the Virginia Port Authority.

1. Name of Company: ____________________________
   Trade Name (if different from Company Name): ____________________________
   Principal Office Address: ____________________________
   Telephone No(s.): ____________________________
   Fax No(s.): ____________________________

   a. If a Corporation, answer the following:

      When Incorporated: ____________________________
      In What State: ____________________________
      If a foreign Corporation, date qualified to do business in Virginia: ____________
      Names and Addresses of Directors: ____________________________
                                      ____________________________
                                      ____________________________
      Names and Addresses of Shareholders: ____________________________
                                      ____________________________
                                      ____________________________

   b. If an Unincorporated Organization, answer the following:

      Date of Organization: ____________________________
      Names and Addresses of Owners or Members: ____________________________
                                      ____________________________
                                      ____________________________
      Type and State of Organization: ____________________________

   c. If a Partnership, state whether Partnership is General or Limited: ____________

      Names and Addresses of Owners or Partners:
                                      ____________________________
                                      ____________________________
                                      ____________________________
d. If a Partnership, state whether Partnership is General or Limited: ______________________

Names and Addresses of Owners or Partners:

__________________________________________________________________________________

__________________________________________________________________________________

If a foreign Partnership, date in which qualified to do business in Virginia: ______________

d. If a Joint Venture, list all entities or persons who are members of the Joint Venture:

Names and Addresses of All Joint Venturers:

__________________________________________________________________________________

__________________________________________________________________________________

Submit a Contractor’s Questionnaire for the Joint Venture signed by the person with authority to act on behalf of the Joint Venture, and each Joint Venturer must also submit a completed and signed Contractor’s Questionnaire with the applicable information.

2. a. How many years has this Bidder been in business as a Contractor under its present business name? ________________________________

b. What are prior names of this Bidder, if any? ______________________________________

3. How many years’ experience in this type of construction work has this Bidder had:

1) As a Contractor ____________ 2) As a Subcontractor ____________

4. Provide a list of uncompleted Contracts at present held by this Bidder (attach supplemental sheet if necessary):

<table>
<thead>
<tr>
<th>Contract</th>
<th>Type of Work</th>
<th>Amount</th>
<th>Percentage Completed</th>
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</tbody>
</table>
5. List the Bidder's project manager, crew foremen and supervisors proposed for this Project and their years of related experience:

<table>
<thead>
<tr>
<th>Name</th>
<th>Years of Experience</th>
<th>Dates of Employment with Bidder</th>
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6. What construction equipment does this Bidder own that is available for the proposed work (attach supplemental sheet if necessary)?

7. Does this Bidder plan to subcontract any part of this work? If so, list name, address, years experience, and type and amount of work to be performed by each subcontractor:

8. As defined in the Instructions to Bidders, provide a list of projects demonstrating direct experience with the successful completion of at least 2 projects within the last 5 years involving construction of utilities, paving, and gate or rail structures such as canopies and/or prefabricated metal buildings. Completed projects must have involved maintaining continuous operation of Owner's facilities without disruption to ongoing operations. Projects shall be of similar complexity, field conditions, and contract value. Attach supplemental sheets as necessary.

(The term "completed" means accepted and final payment received from the Owner or authorized representative).

<table>
<thead>
<tr>
<th>Location and Type of Work</th>
<th>Owner’s Name/Address</th>
<th>Contact Person (Name and Telephone)</th>
<th>Date Completed</th>
<th>Contract Price</th>
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PW\DEN001\664218\690179  CONTRACTOR’S QUESTIONNAIRE
SEPTEMBER 6, 2017       00 45 74 - 3
© COPYRIGHT 2017 CH2M HILL
<table>
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<tr>
<th>Location and Type of Work</th>
<th>Owner’s Name/Address</th>
<th>Contact Person (Name and Telephone)</th>
<th>Date Completed</th>
<th>Contract Price</th>
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</tbody>
</table>

9. Have you ever performed work for a municipal corporation, local governing body, or similar agency previously? (If all such bodies are listed under 8, this question need not be completed).

________________________________________________________________________________________________________________
________________________________________________________________________________________________________________

10. a. Has this Bidder ever failed to complete any work awarded to it? If yes, give name of Owner, name of Bonding Company and circumstances:

________________________________________________________________________________________________________________
________________________________________________________________________________________________________________
________________________________________________________________________________________________________________

b. Is this Bidder debarred by the federal government or by the Commonwealth of Virginia or by any other state, or by any town, city, or county?

   Yes _________   No ___________  If yes, please provide details:

c. Has this Bidder ever had any judgments entered against it for the breach of contract for construction? _______ If yes, please provide details:

________________________________________________________________________________________________________________


d. Give a summary of your financial statement. (List assets and liabilities, use an insert sheet, if necessary).

________________________________________________________________________________________________________________
________________________________________________________________________________________________________________
________________________________________________________________________________________________________________
________________________________________________________________________________________________________________
11. State approximate largest dollar volume of work performed by this Bidder in one year:


12. Give Two Banking Institution References:
   a. Name: ________________________________
      Address: ________________________________
      Credit Available: _________________________
   b. Name: ________________________________
      Address: ________________________________
      Credit Available: _________________________

13. List three material suppliers and amount of credit available:


14. List insurance coverage and amount (or attach certificate of insurance):

   Liability-Property

   Liability-Personal Injury

   Vehicle and Equipment

   Other - Identify

15. Bonding reference - List surety company and highest coverage:


16. Have you or your authorized representative, personally inspected the location of the proposed Work, and do you have a clear understanding of the requirements of the Bid Documents?

The undersigned hereby authorizes and consents to any person, firm or corporation to furnish any information requested by the Owner in verification of this statement of contractor's qualifications. Also, if it is the apparent low Bidder, the undersigned hereby agrees to furnish the Owner upon request, a complete and current financial statement:

Contractor:  
By:  
Title:  
Date:  

END OF SECTION
PROJECT FORMS
THIS AGREEMENT is by and between __________________________________________

(Owner) and ____________________________________________________________ (Contractor).

Owner and Contractor, in consideration of the mutual covenants set forth herein, agree as follows:

1. WORK
   1.1. Contractor shall complete the Work as specified or indicated in the Contract Documents. The Work is generally described as follows:
      
      1.1.1. New rail portal monitor, building, and associated equipment and civil works.
      
      1.1.2. Four new in-gate lanes and extension of existing in-gate structure.
      
      1.1.3. Extension of existing utility services to areas of new work including relocation of existing utilities.
      
      1.1.4. Concrete and asphalt paving.

2. THE PROJECT
   2.1. The Project for which the Work under the Contract Documents may be the whole or only a part is generally described as Virginia International Gateway Phase II Expansion – In-Gate Expansion and Rail Portal Package.

3. ENGINEER
   3.1. The Project has been designed by CH2M HILL (Engineer), who is to act as Owner’s representative, assume duties and responsibilities, and have the rights and authority assigned to Engineer in the Contract Documents in connection with the completion of the Work in accordance with the Contract Documents.

4. CONTRACT TIMES
   4.1. Time of the Essence: Time limits for Milestones, if any, Substantial Completion, and completion and readiness for final payment as stated in the Contract Documents.
are of the essence of the Contract. Contractor acknowledges that the Work required under the Contract must be completed to allow erection and installation of automated stacking cranes to be purchased by Owner under a separate procurement and any delays in the completion of the Contract Work, or any Milestone, may result in Owner incurring significant damages or liability in the crane procurement.

4.2. Days to Achieve Substantial Completion and Final Payment:

4.2.1. Work shall be substantially completed as provided in Paragraph 4.01 of the General Conditions for Rail Portal Work by March 31, 2018, for In-Gate Expansion Work by April 30, 2018, and all Work completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions by May 30, 2018. Intermediate deadlines are defined elsewhere in the Contract Documents.

4.3. Liquidated Damages:

4.3.1. Contractor and Owner recognize that time is of the essence of this Agreement and that Owner will suffer financial loss if the Work is not completed within the times specified in Paragraph Contract Times above, plus any extensions thereof allowed in accordance with Article 11 of the General Conditions. The parties also recognize the delays, expense, and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by Owner if the Work is not completed on time. Accordingly, instead of requiring any such proof, Owner and Contractor agree that as liquidated damages for delay (but not as a penalty) Contractor shall pay Owner the amounts identified in the General and Supplementary Conditions of the contract.

4.3.2. Contractor hereby waives any claim or defense to assessment of liquidated damages for late completion of the Work or any Milestone on the basis that such liquidated damages constitute a penalty, or are disproportionate to Owner’s actual damages incurred due to the delay.

4.3.3. After Final Completion, if Contractor neglects, refuses, or fails to complete remaining Work within the Contract Time or any proper extension thereof granted by Owner, Contractor shall pay Owner the amounts identified in the General and Supplementary Conditions of the contract.
4.3.4. CONTRACT PRICE

4.1. The Owner will pay Contractor for completion of the Work in accordance with the Contract Documents an amount in current funds equal to the sum of the amounts determined pursuant to the following:

4.2. The Contract Price is ______________________________________________ ($_______________) based upon unit and/or lump sum prices extended as submitted in the Contractor’s Bid Form, Section 00 41 13, dated _______.

5. PAYMENT PROCEDURES

5.1. Submittal and Processing of Payments: Contractor shall submit Applications for Payment in accordance with Article 15 of the General Conditions. Applications for Payment will be processed by Engineer as provided in the General Conditions.

5.2. Progress Payments and Retainage: Owner will make progress payments on account of the Contract Price on the basis of Contractor’s Application for Payment on the date of each month as established in the preconstruction conference during performance of the Work as provided herein. All such payments will be measured by the Schedule of Values established as provided in Paragraph 2.05 of the General Conditions (and in the case of Unit Price Work based on the number of units completed) or, in the event there is no Schedule of Values, as provided in the General Requirements.

5.2.1. Prior to Substantial Completion, progress payments will be made in an amount equal to the percentage indicated below but, in each case, less the aggregate of payments previously made and less such amounts as Engineer may determine or Owner may withhold under the terms of the Contract Documents, including but not limited to liquidated damages, in accordance with Paragraph 15.01 of the General Conditions:

5.2.1.1. Ninety-five percent of cost of materials and equipment not incorporated in the Work (with the balance being retainage).

5.2.2. Upon Substantial Completion, Owner will pay an amount sufficient to increase total payments to Contractor to 100 percent of the Work completed, less: (1) liquidated damages assessed by Owner for delayed completion of the Work or any Milestone, (2) such amounts as Engineer will determine in accordance with Paragraph 15.01.C.6 of the General Conditions, and (3) 100 percent of Engineer’s estimate of the value of Work to be completed or corrected as shown on the tentative list of items to be completed or corrected attached to the certificate of Substantial Completion.
5.3. Final Payment:

5.3.1. Upon final completion and acceptance of the Work in accordance with Paragraph 15.06 of the General Conditions, Owner will pay the remainder of the Contract Price as recommended by Engineer as provided in Paragraph 15.06.

6. CONTRACTOR’S REPRESENTATIONS

6.1. In order to induce Owner to enter into this Agreement, Contractor makes the following representations:

6.1.1. Contractor has examined and carefully studied the Contract Documents and the other related data identified in the Bidding Documents.

6.1.2. Contractor has visited the Site and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.

6.1.3. Contractor is familiar with and is satisfied as to all federal, state, and local Laws and Regulations that may affect cost, progress, and performance of the Work.

6.1.4. Contractor has carefully studied: (1) reports of explorations and tests of subsurface conditions at or contiguous to the Site and drawings of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities) if any, which have been identified in Paragraph 5.03 of the Supplementary Conditions as containing reliable “technical data”, and (2) reports and drawings of Hazardous Environmental Conditions, if any, at the Site which have been identified in Paragraph 5.06 of the Supplementary Conditions as containing reliable “technical data.”

6.1.5. Contractor has considered the information known to Contractor; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Contract Documents; and Site-related reports and drawings identified in the Contract Documents, with respect to the effect of such information, observations, and documents on 1) the cost, progress, and performance of the Work; 2) the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, including any specific means, methods, techniques, sequences, and procedures of construction expressly required by the Contract Documents; and 3) Contractor’s safety precautions and programs.
6.1.6. Based on the information and observations referred to above, Contractor does not consider that any further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract Documents.

6.1.7. Contractor is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Contract Documents.

6.1.8. Contractor has given Engineer written notice of conflicts, errors, ambiguities, or discrepancies that Contractor has discovered in the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.

6.1.9. The Contract Documents are generally sufficient to indicate and convey understanding of terms and conditions for performance and furnishing of the Work.

7. CONTRACT DOCUMENTS

7.1. Contents:

7.1.1. The Contract Documents that are attached to this Agreement (except as expressly noted otherwise) consist of the following:

7.1.1.1. This Agreement.

7.1.1.2. Performance bond.

7.1.1.3. Payment bond.

7.1.1.4. General Conditions.

7.1.1.5. Supplementary Conditions.


7.1.1.7. Drawings consisting of 81 sheets with each sheet bearing the following general title: Virginia International Gateway Phase II Expansion – In-Gate Expansion and Rail Portal Package.

7.1.1.8. Addenda (numbers _____ to _____, inclusive).

7.1.1.9. Bid Form.
7.1.2. The following which may be delivered or issued on or after the Effective Date of the Agreement and are not attached hereto:

7.1.2.1. Notice to Proceed (pages ____ to ____ , inclusive).

7.1.2.2. Work Change Directives.

7.1.2.3. Change Order(s).

7.1.2.4. Partial and Final Release and Waiver of Lien forms executed by the Contractor.

7.2. There are no Contract Documents other than those listed above in this Article.

7.3. The Contract Documents may only be amended, modified, or supplemented as provided in Paragraph 11.01 of the General Conditions.

8. MISCELLANEOUS

8.1. Terms used in this Agreement will have the meanings stated in the General Conditions and the Supplementary Conditions.

8.2. Successors and Assigns: Owner and Contractor each binds itself, its partners, successors, assigns, and legal representatives to the other party hereto, its partners, successors, assigns, and legal representatives in respect to all covenants, agreements, and obligations contained in the Contract Documents.

8.3. Severability: Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation shall be deemed stricken, and remaining provisions shall continue to be valid and binding upon Owner and Contractor, who agree the Contract Documents shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

8.4. Assignment of Contract:

8.4.1. No assignment by a party hereto of any rights under or interests in the Contract shall be binding on another party hereto without the written consent of the party sought to be bound; and, specifically but without limitation, monies that may become due and monies that are due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment shall release or discharge the assignor from any duty or responsibility under the Contract Documents.
8.5. Contractor’s Certifications:

8.5.1. Contractor certifies that it has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for or in executing the Contract. For the purposes of this paragraph:

8.5.1.1. “corrupt practice” means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the bidding process or in Contract execution;

8.5.1.2. “fraudulent practice” means an intentional misrepresentation of facts made (a) to influence the bidding process or the execution of the Contract to the detriment of Owner, (b) to establish Bid or Contract Price at artificial noncompetitive levels, or (c) to deprive Owner of the benefits of free and open competition;

8.5.1.3. “collusive practice” means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish Bid prices at artificial, noncompetitive levels; and

8.5.1.4. “coercive practice” means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

IN WITNESS WHEREOF, Owner and Contractor have signed this Agreement in triplicate. One counterpart each has been delivered to Owner, Contractor, and Engineer. All portions of the Contract Documents have been signed or identified by Owner and Contractor or on their behalf.
This Agreement will be effective on _____, 20__ (which is the Effective Date of the Agreement).

OWNER: ____________________________

________________________________________

By: _________________________________

Title: ________________________________

[CORPORATE SEAL]

Attest: _______________________________

Title: ________________________________

Address for giving notices:

________________________________________

________________________________________

(If Owner is a corporation, attach evidence of authority to sign. If Owner is a public body, attach evidence of authority to sign and resolution or other documents authorizing execution of this Agreement.)

CONTRACTOR: ____________________________

________________________________________

By: _________________________________

Title: ________________________________

[CORPORATE SEAL]

Attest: _______________________________

Title: ________________________________

Address for giving notices:

________________________________________

________________________________________

License No. __________________________

(Where applicable)

Agent for service or process: __________

________________________________________

(If Contractor is a corporation, a partnership, or a joint venture, attach evidence of authority to sign.)
VIRGINIA PERFORMANCE BOND

BOND NO. ____________________________

AMOUNT: $__________________________

KNOW ALL MEN BY THESE PRESENTS, that ____________________________

of ____________________________,

hereinafter called the Contractor (Principal), and ____________________________

a corporation or incorporated individual, partnership, or joint venture duly organized and existing under and by virtue of the laws of the State of ____________________________,

of ____________________________,

hereinafter called the Surety, and authorized to transact business within the Commonwealth of Virginia, as Surety, are held and firmly bound unto The Virginia Port Authority as Owner (Obligee), in the sum of: ____________________________,

DOLLARS ($__________),

lawful money of the United States of America, for the payment of which, well and truly be made to the Owner, the Contractor and the Surety bind themselves and each of their heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents as follows:

THE CONDITION OF THE ABOVE OBLIGATION IS SUCH THAT:

WHEREAS, the Contractor has executed and entered into a certain Contract hereto

attached, with the Owner, dated ________________, for: Virginia International Gateway Phase II Expansion – In-Gate Expansion and Rail Portal Package.

NOW, THEREFORE, if the Contractor shall at all times duly, promptly, and faithfully perform the Contract and any alteration in or addition to the obligations of the Contractor arising thereunder, including the matter of infringement, if any, of patents or other proprietary rights, and shall assure all guarantees against defective workmanship and materials, including the guarantee period following final completion by the Contractor and final acceptance by the Owner and comply with all the covenants therein contained in the Specifications, Drawings, and other Documents constituting a part of the Contract required to be performed by the Contractor, in the manner and within the times provided in the Contract,
and shall fully indemnify and save harmless the Owner from all costs and damage which it may suffer by reason or failure so to do, and shall fully reimburse and repay all outlay and expenses which it may incur in making good any default, and reasonable counsel fees incurred in the prosecution of or defense of any action arising out of or in connection with any such default, then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, HOWEVER, that the Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration, or addition to the terms of the Contract Documents or to the work to be performed thereunder, shall in any way affect its obligation on this bond, and Surety does hereby waive notice of any such change, extension of time, alteration, or addition to the terms of the Contract Documents.

PROVIDED, FURTHER, that no final settlement between the Owner and the Contractor shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, the above parties bounded together have executed this instrument this ______________ day of ___________________ 20____, the name and corporate seal of each corporate party being hereto affixed and those presents duly signed by its undersigned representative, pursuant to authority of its governing body.

Contractor

________________________________________

By ___________________________ (Seal)

________________________________________

Attest

Surety

________________________________________

By ___________________________ (Seal)

________________________________________

Attest

APPROVED AS TO FORM: ___________, 20__.

________________________________________, Owner

NOTE: Date of bond must not be prior to date of Contract. If Contractor is a partnership or joint venture, all partners or joint ventures must execute the bond form.
IMPORTANT: The Surety named on this bond shall be one who is licensed to conduct business in the state where the project is located, and named in the current list of Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies, as published in Circular 570 (amended) by the Audit Staff Bureau of Accounts, U.S. Treasury Department. All bonds signed by an agent must be accompanied by a certified copy of the authority to act for the Surety at the time of the signing of this bond.

END OF SECTION
VIRGINIA INTERNATIONAL GATEWAY—PHASE II EXPANSION
IN-GATE EXPANSION AND RAIL PORTAL PACKAGE

VIRGINIA PAYMENT BOND FORM

BOND NO. __________________________

AMOUNT: $ _______________________

KNOW ALL MEN BY THESE PRESENTS, that ________________________________

of ________________________________

hereinafter called the Contractor (Principal), and ________________________________

a corporation or incorporated individual, partnership, or joint venture duly organized and
existing under and by virtue of the laws of the State

of ________________________________,

hereinafter called the Surety, and authorized to transact business within the Commonwealth
of Virginia, as Surety, are held and firmly bound unto The Virginia Port Authority

as Owner (Obligee), in the sum of: ________________________________

Dollars ($_____________),

lawful money of the United States of America, for the payment of which, well and truly be
made to the Owner, the Contractor and the Surety bind themselves and each of their heirs,
executors, administrators, successors, and assigns, jointly and severally, firmly by these
presents as follows:

THE CONDITION OF THE ABOVE OBLIGATION IS SUCH THAT:

WHEREAS, the Contractor has executed and entered into a certain Contract

hereto attached, with the Owner, dated ________________, for: Virginia International
Gateway Phase II Expansion – In-Gate Expansion and Rail Portal Package.

NOW, THEREFORE, if the Contractor shall promptly make payment to all persons, firms,
subcontractors, and corporations furnishing materials for or performing labor in the
prosecution of the work provided for in the Contract, and any authorized extension or
modification thereof, including all amounts due for materials, lubricants, oil, gasoline, coal
and coke, repairs on machinery, equipment, and tools consumed or used in connection with
the construction of the work, and all insurance premiums on the work, and for all labor
performed in the work, whether by subcontractor or otherwise, then this obligation shall be
void; otherwise to remain in full force and effect.
PROVIDED, FURTHER, that the Surety, for value received hereby stipulates and agrees that no change, extension of time, alteration, or addition to the terms of the Contract, or to work to be performed thereunder, or the Specifications accompanying the same, shall in any way affect its obligation on this bond, and it does hereby waive notice of any such change, extension of time, alteration, or addition to the terms of the Contract, or to the work, or to the Specifications.

PROVIDED, FURTHER, that no final settlement between the Owner and the Contractor shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, the above parties bounded together have executed this instrument this _________ day of __________________________ 20____, the name and corporate seal of each corporate party being hereto affixed and those presents duly signed by its undersigned representative, pursuant to authority of its governing body.

Contractor

________________________________________________________

By ____________________________ (Seal)

________________________________________________________

Attest

Surety

________________________________________________________

By ____________________________ (Seal)

________________________________________________________

Attest

APPROVED AS TO FORM: _________, 20____

________________________________________________________, Owner

________________________________________________________

NOTE: Date of bond must not be prior to date of Contract. If Contractor is a partnership or joint venture, all partners or joint ventures must execute the bond form.
IMPORTANT: The Surety named on this bond shall be one who is licensed to conduct business in the Commonwealth of Virginia, and named in the current list of Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies, as published in Circular 570 (amended) by the Audit Staff Bureau of Accounts, U.S. Treasury Department. All bonds signed by an agent must be accompanied by a certified copy of the authority to act for the Surety at the time of the signing of this bond.

END OF SECTION
CONDITIONS OF THE CONTRACT
These General Conditions have been prepared for use with the Agreement Between Owner and Contractor for Construction Contract (EJCDC® C-520, Stipulated Sum, or C-525, Cost-Plus, 2013 Editions). Their provisions are interrelated and a change in one may necessitate a change in the other.
STANDARD GENERAL CONDITIONS OF THE
CONSTRUCTION CONTRACT

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ARTICLE 1 – DEFINITIONS AND TERMINOLOGY

1.01 Defined Terms

A. Wherever used in the Bidding Requirements or Contract Documents, a term printed with initial capital letters, including the term’s singular and plural forms, will have the meaning indicated in the definitions below. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.

1. Addenda—Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the proposed Contract Documents.

2. Agreement—The written instrument, executed by Owner and Contractor, that sets forth the Contract Price and Contract Times, identifies the parties and the Engineer, and designates the specific items that are Contract Documents.

3. Application for Payment—The form acceptable to Engineer which is to be used by Contractor during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.

4. Bid—The offer of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

5. Bidder—An individual or entity that submits a Bid to Owner.

6. Bidding Documents—The Bidding Requirements, the proposed Contract Documents, and all Addenda.

7. Bidding Requirements—The advertisement or invitation to bid, Instructions to Bidders, Bid Bond or other Bid security, if any, the Bid Form, and the Bid with any attachments.

8. Change Order—A document which is signed by Contractor and Owner and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, or other revision to the Contract, issued on or after the Effective Date of the Contract.

9. Change Proposal—A written request by Contractor, duly submitted in compliance with the procedural requirements set forth herein, seeking an adjustment in Contract Price or Contract Times, or both; contesting an initial decision by Engineer concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents; challenging a set-off against payments due; or seeking other relief with respect to the terms of the Contract.

10. Claim—(a) A demand or assertion by Owner directly to Contractor, duly submitted in compliance with the procedural requirements set forth herein: seeking an adjustment of Contract Price or Contract Times, or both; contesting an initial decision by Engineer concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents; contesting Engineer’s decision regarding a Change Proposal; seeking resolution of a contractual issue that Engineer has declined to address; or seeking other relief with respect to the terms of the Contract; or (b) a demand or assertion by Contractor directly to Owner, duly submitted in compliance with the procedural requirements set forth herein, contesting Engineer’s decision regarding a Change Proposal; or seeking resolution of a contractual issue that Engineer has declined to address. A demand for money or services by a third party is not a Claim.

11. Constituent of Concern—Asbestos, petroleum, radioactive materials, polychlorinated biphenyls (PCBs), hazardous waste, and any substance, product, waste, or other material of any nature whatsoever that is or becomes listed, regulated, or addressed pursuant to (a) the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. §§9601 et seq. (“CERCLA”); (b) the Hazardous Materials Transportation Act, 49 U.S.C. §§5501 et seq.; (c) the Resource Conservation and Recovery Act, 42 U.S.C. §§6901 et seq. (“RCRA”); (d) the Toxic Substances Control Act, 15 U.S.C.
§§2601 et seq.; (e) the Clean Water Act, 33 U.S.C. §§1251 et seq.; (f) the Clean Air Act, 42 U.S.C. §§7401 et seq.; or (g) any other federal, state, or local statute, law, rule, regulation, ordinance, resolution, code, order, or decree regulating, relating to, or imposing liability or standards of conduct concerning, any hazardous, toxic, or dangerous waste, substance, or material.

12. **Contract**—The entire and integrated written contract between the Owner and Contractor concerning the Work.

13. **Contract Documents**—Those items so designated in the Agreement, and which together comprise the Contract.

14. **Contract Price**—The money that Owner has agreed to pay Contractor for completion of the Work in accordance with the Contract Documents.

15. **Contract Times**—The number of days or the dates by which Contractor shall: (a) achieve Milestones, if any; (b) achieve Substantial Completion; and (c) complete the Work.

16. **Contractor**—The individual or entity with which Owner has contracted for performance of the Work.

17. **Cost of the Work**—See Paragraph 13.01 for definition.

18. **Drawings**—The part of the Contract that graphically shows the scope, extent, and character of the Work to be performed by Contractor.

19. **Effective Date of the Contract**—The date, indicated in the Agreement, on which the Contract becomes effective.

20. **Engineer**—The individual or entity named as such in the Agreement.

21. **Field Order**—A written order issued by Engineer which requires minor changes in the Work but does not change the Contract Price or the Contract Times.

22. **Hazardous Environmental Condition**—The presence at the Site of Constituents of Concern in such quantities or circumstances that may present a danger to persons or property exposed thereto. The presence at the Site of materials that are necessary for the execution of the Work, or that are to be incorporated in the Work, and that are controlled and contained pursuant to industry practices, Laws and Regulations, and the requirements of the Contract, does not establish a Hazardous Environmental Condition.

23. **Laws and Regulations; Laws or Regulations**—Any and all applicable laws, statutes, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.

24. **Liens**—Charges, security interests, or encumbrances upon Contract-related funds, real property, or personal property.

25. **Milestone**—A principal event in the performance of the Work that the Contract requires Contractor to achieve by an intermediate completion date or by a time prior to Substantial Completion of all the Work.

26. **Notice of Award**—The written notice by Owner to a Bidder of Owner’s acceptance of the Bid.

27. **Notice to Proceed**—A written notice by Owner to Contractor fixing the date on which the Contract Times will commence to run and on which Contractor shall start to perform the Work.

28. **Owner**—The individual or entity with which Contractor has contracted regarding the Work, and which has agreed to pay Contractor for the performance of the Work, pursuant to the terms of the Contract.

29. **Progress Schedule**—A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising the Contractor’s plan to accomplish the Work within the Contract Times.

30. **Project**—The total undertaking to be accomplished for Owner by engineers, contractors, and others, including planning, study, design, construction, testing, commissioning, and start-up, and of which the Work to be performed under the Contract Documents is a part.

31. **Project Manual**—The written documents prepared for, or made available for, procuring and constructing
the Work, including but not limited to the Bidding Documents or other construction procurement documents, geotechnical and existing conditions information, the Agreement, bond forms, General Conditions, Supplementary Conditions, and Specifications. The contents of the Project Manual may be bound in one or more volumes.

32. Resident Project Representative—The authorized representative of Engineer assigned to assist Engineer at the Site. As used herein, the term Resident Project Representative or “RPR” includes any assistants or field staff of Resident Project Representative.

33. Samples—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and that establish the standards by which such portion of the Work will be judged.

34. Schedule of Submittals—A schedule, prepared and maintained by Contractor, of required submittals and the time requirements for Engineer’s review of the submittals and the performance of related construction activities.

35. Schedule of Values—A schedule, prepared and maintained by Contractor, allocating portions of the Contract Price to various portions of the Work and used as the basis for reviewing Contractor’s Applications for Payment.

36. Shop Drawings—All drawings, diagrams, illustrations, schedules, and other data or information that are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work. Shop Drawings, whether approved or not, are not Drawings and are not Contract Documents.

37. Site—Lands or areas indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed, including rights-of-way and easements, and such other lands furnished by Owner which are designated for the use of Contractor.

38. Specifications—The part of the Contract that consists of written requirements for materials, equipment, systems, standards, and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable to the Work.

39. Subcontractor—An individual or entity having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work.

40. Substantial Completion—The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms “substantially complete” and “substantially completed” as applied to all or part of the Work refer to Substantial Completion thereof.

41. Successful Bidder—The Bidder whose Bid the Owner accepts, and to which the Owner makes an award of contract, subject to stated conditions.

42. Supplementary Conditions—The part of the Contract that amends or supplements these General Conditions.

43. Supplier—A manufacturer, fabricator, supplier, distributor, materialman, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or a Subcontractor.

44. Technical Data—Those items expressly identified as Technical Data in the Supplementary Conditions, with respect to either (a) subsurface conditions at the Site, or physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities) or (b) Hazardous Environmental Conditions at the Site. If no such express identifications of Technical Data have been made with respect to conditions at the Site, then the data contained in boring logs, recorded measurements of subsurface water levels, laboratory test results, and other factual, objective information regarding conditions at the Site that are set forth in any geotechnical or environmental report prepared for the Project and made

*
available to Contractor are hereby defined as Technical Data with respect to conditions at the Site under Paragraphs 5.03, 5.04, and 5.06.

45. **Underground Facilities**—All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including but not limited to those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, fiber optic transmissions, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.

46. **Unit Price Work**—Work to be paid for on the basis of unit prices.

47. **Work**—The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction; furnishing, installing, and incorporating all materials and equipment into such construction; and may include related services such as testing, start-up, and commissioning, all as required by the Contract Documents.

48. **Work Change Directive**—A written directive to Contractor issued on or after the Effective Date of the Contract, signed by Owner and recommended by Engineer, ordering an addition, deletion, or revision in the Work.

### Terminology

1.02

A. The words and terms discussed in the following paragraphs are not defined but, when used in the Bidding Requirements or Contract Documents, have the indicated meaning.

B. **Intent of Certain Terms or Adjectives:**

1. The Contract Documents include the terms “as allowed,” “as approved,” “as ordered,” “as directed” or terms of like effect or import to authorize an exercise of professional judgment by Engineer. In addition, the adjectives “reasonable,” “suitable,” “acceptable,” “proper,” “satisfactory,” or adjectives of like effect or import are used to describe an action or determination of Engineer as to the Work. It is intended that such exercise of professional judgment, action, or determination will be solely to evaluate, in general, the Work for compliance with the information in the Contract Documents and with the design concept of the Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective is not intended to and shall not be effective to assign to Engineer any duty or authority to supervise or direct the performance of the Work, or any duty or authority to undertake responsibility contrary to the provisions of Article 10 or any other provision of the Contract Documents.

C. **Day:**

1. The word “day” means a calendar day of 24 hours measured from midnight to the next midnight.

D. **Defective:**

1. The word “defective,” when modifying the word “Work,” refers to Work that is unsatisfactory, faulty, or deficient in that:

   a. does not conform to the Contract Documents; or
   
   b. does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents; or
   
   c. has been damaged prior to Engineer’s recommendation of final payment (unless responsibility for the protection thereof has been assumed by Owner at Substantial Completion in accordance with Paragraph 15.03 or 15.04).

E. **Furnish, Install, Perform, Provide:**

1. The word “furnish,” when used in connection with services, materials, or equipment, shall mean to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.
2. The word “install,” when used in connection with services, materials, or equipment, shall mean to put into use or place in final position said services, materials, or equipment complete and ready for intended use.

3. The words “perform” or “provide,” when used in connection with services, materials, or equipment, shall mean to furnish and install said services, materials, or equipment complete and ready for intended use.

4. If the Contract Documents establish an obligation of Contractor with respect to specific services, materials, or equipment, but do not expressly use any of the four words “furnish,” “install,” “perform,” or “provide,” then Contractor shall furnish and install said services, materials, or equipment complete and ready for intended use.

F. Unless stated otherwise in the Contract Documents, words or phrases that have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

ARTICLE 2 – PRELIMINARY MATTERS

2.01 Delivery of Bonds and Evidence of Insurance

A. Bonds: When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner such bonds as Contractor may be required to furnish.

B. Evidence of Contractor’s Insurance: When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner, with copies to each named insured and additional insured (as identified in the Supplementary Conditions or elsewhere in the Contract), the certificates and other evidence of insurance required to be provided by Contractor in accordance with Article 6.

C. Evidence of Owner’s Insurance: After receipt of the executed counterparts of the Agreement and all required bonds and insurance documentation, Owner shall promptly deliver to Contractor, with copies to each named insured and additional insured (as identified in the Supplementary Conditions or otherwise), the certificates and other evidence of insurance required to be provided by Owner under Article 6.

2.02 Copies of Documents

A. Owner shall furnish to Contractor four printed copies of the Contract (including one fully executed counterpart of the Agreement), and one copy in electronic portable document format (PDF). Additional printed copies will be furnished upon request at the cost of reproduction.

B. Owner shall maintain and safeguard at least one original printed record version of the Contract, including Drawings and Specifications signed and sealed by Engineer and other design professionals. Owner shall make such original printed record version of the Contract available to Contractor for review. Owner may delegate the responsibilities under this provision to Engineer.

2.03 Before Starting Construction

A. Preliminary Schedules: Within 10 days after the Effective Date of the Contract (or as otherwise specifically required by the Contract Documents), Contractor shall submit to Engineer for timely review:

1. a preliminary Progress Schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract;

2. a preliminary Schedule of Submittals; and

3. a preliminary Schedule of Values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides the Work into component parts in sufficient detail to serve as the basis for progress payments during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

2.04 Preconstruction Conference; Designation of Authorized Representatives

A. Before any Work at the Site is started, a conference attended by Owner, Contractor, Engineer, and others as appropriate will be held to establish a working understanding among the parties as to the Work and to discuss the schedules referred to in Paragraph
2.03.A, procedures for handling Shop Drawings, Samples, and other submittals, processing Applications for Payment, electronic or digital transmittals, and maintaining required records.

B. At this conference Owner and Contractor each shall designate, in writing, a specific individual to act as its authorized representative with respect to the services and responsibilities under the Contract. Such individuals shall have the authority to transmit and receive information, render decisions relative to the Contract, and otherwise act on behalf of each respective party.

2.05 Initial Acceptance of Schedules

A. At least 10 days before submission of the first Application for Payment a conference, attended by Contractor, Engineer, and others as appropriate, will be held to review for acceptability to Engineer as provided below the schedules submitted in accordance with Paragraph 2.03.A. Contractor shall have an additional 10 days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall be made to Contractor until acceptable schedules are submitted to Engineer.

1. The Progress Schedule will be acceptable to Engineer if it provides an orderly progression of the Work to completion within the Contract Times. Such acceptance will not impose on Engineer responsibility for the Progress Schedule, for sequencing, scheduling, or progress of the Work, nor interfere with or relieve Contractor from Contractor’s full responsibility therefor.

2. Contractor’s Schedule of Submittals will be acceptable to Engineer if it provides a workable arrangement for reviewing and processing the required submittals.

3. Contractor’s Schedule of Values will be acceptable to Engineer as to form and substance if it provides a reasonable allocation of the Contract Price to the component parts of the Work.

2.06 Electronic Transmittals

A. Except as otherwise stated elsewhere in the Contract, the Owner, Engineer, and Contractor may transmit, and shall accept, Project-related correspondence, text, data, documents, drawings, information, and graphics, including but not limited to Shop Drawings and other submittals, in electronic media or digital format, either directly, or through access to a secure Project website.

B. If the Contract does not establish protocols for electronic or digital transmittals, then Owner, Engineer, and Contractor shall jointly develop such protocols.

C. When transmitting items in electronic media or digital format, the transmitting party makes no representations as to long term compatibility, usability, or readability of the items resulting from the recipient’s use of software application packages, operating systems, or computer hardware differing from those used in the drafting or transmittal of the items, or from those established in applicable transmittal protocols.

ARTICLE 3 – DOCUMENTS: INTENT, REQUIREMENTS, REUSE

3.01 Intent

A. The Contract Documents are complementary; what is required by one is as binding as if required by all.

B. It is the intent of the Contract Documents to describe a functionally complete project (or part thereof) to be constructed in accordance with the Contract Documents.

C. Unless otherwise stated in the Contract Documents, if there is a discrepancy between the electronic or digital versions of the Contract Documents (including any printed copies derived from such electronic or digital versions) and the printed record version, the printed record version shall govern.

D. The Contract supersedes prior negotiations, representations, and agreements, whether written or oral.

E. Engineer will issue clarifications and interpretations of the Contract Documents as provided herein.

3.02 Reference Standards

A. Standards Specifications, Codes, Laws and Regulations

1. Reference in the Contract Documents to standard specifications, manuals, reference standards, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, shall mean the standard specification, manual, reference
2. No provision of any such standard specification, manual, reference standard, or code, or any instruction of a Supplier, shall be effective to change the duties or responsibilities of Owner, Contractor, or Engineer, or any of their subcontractors, consultants, agents, or employees, from those set forth in the part of the Contract Documents prepared by or for Engineer. No such provision or instruction shall be effective to assign to Owner, Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of the part of the Contract Documents prepared by or for Engineer.

3.03 Reporting and Resolving Discrepancies

A. Reporting Discrepancies:

1. **Contractor’s Verification of Figures and Field Measurements:** Before undertaking each part of the Work, Contractor shall carefully study the Contract Documents, and check and verify pertinent figures and dimensions therein, particularly with respect to applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy that Contractor discovers, or has actual knowledge of, and shall not proceed with any Work affected thereby until the conflict, error, ambiguity, or discrepancy is resolved, by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract Documents issued pursuant to Paragraph 11.01.

B. Resolving Discrepancies:

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the part of the Contract Documents prepared by or for Engineer shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between such provisions of the Contract Documents and:
   a. the provisions of any standard specification, manual, reference standard, or code, or the instruction of any Supplier (whether or not specifically incorporated by reference as a Contract Document); or
   b. the provisions of any Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

3.04 Requirements of the Contract Documents

A. During the performance of the Work and until final payment, Contractor and Owner shall submit to the Engineer all matters in question concerning the requirements of the Contract Documents and (a) any applicable Law or Regulation, (b) actual field conditions, (c) any standard specification, manual, reference standard, or code, or (d) any instruction of any Supplier, then Contractor shall promptly report it to Engineer in writing. Contractor shall not proceed with the Work affected thereby (except in an emergency as required by Paragraph 7.15) until the conflict, error, ambiguity, or discrepancy is resolved, by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract Documents issued pursuant to Paragraph 11.01. Contractor shall not be liable to Owner or Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Contractor had actual knowledge thereof.
the Contract Documents, as soon as possible after such matters arise. Engineer will be the initial interpreter of the requirements of the Contract Documents, and judge of the acceptability of the Work thereunder.

B. Engineer will, with reasonable promptness, render a written clarification, interpretation, or decision on the issue submitted, or initiate an amendment or supplement to the Contract Documents. Engineer’s written clarification, interpretation, or decision will be final and binding on Contractor, unless it appeals by submitting a Change Proposal, and on Owner, unless it appeals by filing a Claim.

C. If a submitted matter in question concerns terms and conditions of the Contract Documents that do not involve (1) the performance or acceptability of the Work under the Contract Documents, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, then Engineer will promptly give written notice to Owner and Contractor that Engineer is unable to provide a decision or interpretation. If Owner and Contractor are unable to agree on resolution of such a matter in question, either party may pursue resolution as provided in Article 12.

3.05 Reuse of Documents

A. Contractor and its Subcontractors and Suppliers shall not:

1. have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of Engineer or its consultants, including electronic media editions, or reuse any such Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of Owner and Engineer and specific written verification or adaptation by Engineer; or

2. have or acquire any title or ownership rights in any other Contract Documents, reuse any such Contract Documents for any purpose without Owner’s express written consent, or violate any copyrights pertaining to such Contract Documents.

B. The prohibitions of this Paragraph 3.05 will survive final payment, or termination of the Contract. Nothing herein shall preclude Contractor from retaining copies of the Contract Documents for record purposes.

ARTICLE 4 – COMMENCEMENT AND PROGRESS OF THE WORK

4.01 Commencement of Contract Times; Notice to Proceed

A. The Contract Times will commence to run on the thirtieth day after the Effective Date of the Contract or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 30 days after the Effective Date of the Contract. In no event will the Contract Times commence to run later than the sixtieth day after the day of Bid opening or the thirtieth day after the Effective Date of the Contract, whichever date is earlier.

4.02 Starting the Work

A. Contractor shall start to perform the Work on the date when the Contract Times commence to run. No Work shall be done at the Site prior to such date.

4.03 Reference Points

A. Owner shall provide engineering surveys to establish reference points for construction which in Engineer’s judgment are necessary to enable Contractor to proceed with the Work. Contractor shall be responsible for laying out the Work, shall protect and preserve the established reference points and property monuments, and shall make no changes or relocations without the prior written approval of Owner. Contractor shall report to Engineer whenever any reference point or property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points or property monuments by professionally qualified personnel.

4.04 Progress Schedule

A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.05 as it may be adjusted from time to time as provided below.

1. Contractor shall submit to Engineer for acceptance (to the extent indicated in Paragraph 2.05) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times.
2. Proposed adjustments in the Progress Schedule that will change the Contract Times shall be submitted in accordance with the requirements of Article 11.

B. Contractor shall carry on the Work and adhere to the Progress Schedule during all disputes or disagreements with Owner. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, or during any appeal process, except as permitted by Paragraph 16.04, or as Owner and Contractor may otherwise agree in writing.

4.05 Delays in Contractor’s Progress

* A. If Owner, Engineer, or anyone for whom Owner is responsible, delays, disrupts, or interferes with the performance or progress of the Work, then Contractor shall be entitled to an equitable adjustment in the Contract Times and Contract Price. Contractor’s entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor’s ability to complete the Work within the Contract Times.

B. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delay, disruption, or interference caused by or within the control of Contractor. Delay, disruption, and interference attributable to and within the control of a Subcontractor or Supplier shall be deemed to be within the control of Contractor.

C. If Contractor’s performance or progress is delayed, disrupted, or interfered with by unanticipated causes not the fault of and beyond the control of Owner, Contractor, and those for which they are responsible, then Contractor shall be entitled to an equitable adjustment in Contract Times. Contractor’s entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor’s ability to complete the Work within the Contract Times. Such an adjustment shall be Contractor’s sole and exclusive remedy for the delays, disruption, and interference described in this paragraph. Causes of delay, disruption, or interference that may give rise to an adjustment in Contract Times under this paragraph include but are not limited to the following:

1. severe and unavoidable natural catastrophes such as fires, floods, epidemics, and earthquakes;
2. abnormal weather conditions;
3. acts or failures to act of utility owners (other than those performing other work at or adjacent to the Site by arrangement with the Owner, as contemplated in Article 8); and
4. acts of war or terrorism.

D. Delays, disruption, and interference to the performance or progress of the Work resulting from the existence of a differing subsurface or physical condition, an Underground Facility that was not shown or indicated by the Contract Documents, or not shown or indicated with reasonable accuracy, and those resulting from Hazardous Environmental Conditions, are governed by Article 5.

E. Paragraph 8.03 governs delays, disruption, and interference to the performance or progress of the Work resulting from the performance of certain other work at or adjacent to the Site.

F. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for any delay, disruption, or interference if such delay is concurrent with a delay, disruption, or interference caused by or within the control of Contractor.

G. Contractor must submit any Change Proposal seeking an adjustment in Contract Price or Contract Times under this paragraph within 30 days of the commencement of the delaying, disrupting, or interfering event.

ARTICLE 5 – AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS

5.01 Availability of Lands

A. Owner shall furnish the Site. Owner shall notify Contractor of any encumbrances or restrictions not of general application but specifically related to use of the Site with which Contractor must comply in performing the Work.

B. Upon reasonable written request, Owner shall furnish Contractor with a current statement of record legal title and legal description of the lands upon which permanent improvements are to be made and Owner’s interest therein as necessary for giving notice of or filing a mechanic’s or construction lien against such lands in accordance with applicable Laws and Regulations.
C. Contractor shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

5.02 Use of Site and Other Areas

A. Limitation on Use of Site and Other Areas:

1. Contractor shall confine construction equipment, temporary construction facilities, the storage of materials and equipment, and the operations of workers to the Site, adjacent areas that Contractor has arranged to use through construction easements or otherwise, and other adjacent areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and such other adjacent areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for (a) damage to the Site; (b) damage to any such other adjacent areas used for Contractor’s operations; (c) damage to any other adjacent land or areas; and (d) for injuries and losses sustained by the owners or occupants of any such land or areas; provided that such damage or injuries result from the performance of the Work or from other actions or conduct of the Contractor or those for which Contractor is responsible.

2. If a damage or injury claim is made by the owner or occupant of any such land or area because of the performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible, Contractor shall (a) take immediate corrective or remedial action as required by Paragraph 7.12, or otherwise; (b) promptly attempt to settle the claim as to all parties through negotiations with such owner or occupant, or otherwise resolve the claim by arbitration or other dispute resolution proceeding, or at law; and (c) to the fullest extent permitted by Laws and Regulations, indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against any such claim, and against all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought by any such owner or occupant against Owner, Engineer, or any other party indemnified hereunder to the extent caused directly or indirectly, in whole or in part by, or based upon, Contractor’s performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible.

B. Removal of Debris During Performance of the Work: During the progress of the Work the Contractor shall keep the Site and other adjacent areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris shall conform to applicable Laws and Regulations.

C. Cleaning: Prior to Substantial Completion of the Work Contractor shall clean the Site and the Work and make it ready for utilization by Owner. At the completion of the Work Contractor shall remove from the Site and adjacent areas all tools, appliances, construction equipment and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.

D. Loading of Structures: Contractor shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall Contractor subject any part of the Work or adjacent structures or land to stresses or pressures that will endanger them.

5.03 Subsurface and Physical Conditions

A. Reports and Drawings: The Supplementary Conditions identify:

1. those reports known to Owner of explorations and tests of subsurface conditions at or adjacent to the Site;

2. those drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities); and

3. Technical Data contained in such reports and drawings.

B. Reliance by Contractor on Technical Data Authorized: Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions
with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no such express identification has been made, then Contractor may rely upon the accuracy of the Technical Data (as defined in Article 1) contained in any geotechnical or environmental report prepared for the Project and made available to Contractor. Except for such reliance on Technical Data, Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, with respect to:

1. the completeness of such reports and drawings for Contractor’s purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto; or

2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or

3. any Contractor interpretation of or conclusion drawn from any Technical Data or any such other data, interpretations, opinions, or information.

5.04 Differing Subsurface or Physical Conditions

A. Notice by Contractor: If Contractor believes that any subsurface or physical condition that is uncovered or revealed at the Site either:

1. is of such a nature as to establish that any Technical Data on which Contractor is entitled to rely as provided in Paragraph 5.03 is materially inaccurate; or

2. is of such a nature as to require a change in the Drawings or Specifications; or

3. differs materially from that shown or indicated in the Contract Documents; or

4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

then Contractor shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency as required by Paragraph 7.15), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except with respect to an emergency) until receipt of a written statement permitting Contractor to do so.

B. Engineer’s Review: After receipt of written notice as required by the preceding paragraph, Engineer will promptly review the subsurface or physical condition in question; determine the necessity of Owner’s obtaining additional exploration or tests with respect to the condition; conclude whether the condition falls within any one or more of the differing site condition categories in Paragraph 5.04.A above; obtain any pertinent cost or schedule information from Contractor; prepare recommendations to Owner regarding the Contractor’s resumption of Work in connection with the subsurface or physical condition in question and the need for any change in the Drawings or Specifications; and advise Owner in writing of Engineer’s findings, conclusions, and recommendations.

C. Owner’s Statement to Contractor Regarding Site Condition: After receipt of Engineer’s written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the subsurface or physical condition in question, addressing the resumption of Work in connection with such condition, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer’s written findings, conclusions, and recommendations, in whole or in part.

D. Possible Price and Times Adjustments:

1. Contractor shall be entitled to an equitable adjustment in Contract Price or Contract Times, or both, to the extent that the existence of a differing subsurface or physical condition, or any related delay, disruption, or interference, causes an increase or decrease in Contractor’s cost of, or time required for, performance of the Work; subject, however, to the following:

   a. such condition must fall within any one or more of the categories described in Paragraph 5.04.A;

   b. with respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will
be subject to the provisions of Paragraph 13.03; and,

c. Contractor’s entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor’s ability to complete the Work within the Contract Times.

2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times with respect to a subsurface or physical condition if:

a. Contractor knew of the existence of such condition at the time Contractor made a commitment to Owner with respect to Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract, or otherwise; or

b. the existence of such condition reasonably could have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas expressly required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor’s making such commitment; or

c. Contractor failed to give the written notice as required by Paragraph 5.04.A.

3. If Owner and Contractor agree regarding Contractor’s entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, or both, then any such adjustment shall be set forth in a Change Order.

* 4. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, or both, no later than 30 days after Owner’s issuance of the Owner’s written statement to Contractor regarding the subsurface or physical condition in question.

5.05 Underground Facilities

A. Contractor’s Responsibilities: The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or adjacent to the Site is based on information and data furnished to Owner or Engineer by the owners of such Underground Facilities, including Owner, or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:

1. Owner and Engineer do not warrant or guarantee the accuracy or completeness of any such information or data provided by others; and

2. the cost of all of the following will be included in the Contract Price, and Contractor shall have full responsibility for:

a. reviewing and checking all information and data regarding existing Underground Facilities at the Site;

b. locating all Underground Facilities shown or indicated in the Contract Documents as being at the Site;

c. coordination of the Work with the owners (including Owner) of such Underground Facilities, during construction; and

d. the safety and protection of all existing Underground Facilities at the Site, and repairing any damage thereto resulting from the Work.

B. Notice by Contractor: If Contractor believes that an Underground Facility that is uncovered or revealed at the Site was not shown or indicated in the Contract Documents, or was not shown or indicated with reasonable accuracy, then Contractor shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by Paragraph 7.15), identify the owner of such Underground Facility and give written notice to that owner and to Owner and Engineer.

C. Engineer’s Review: Engineer will promptly review the Underground Facility and conclude whether such Underground Facility was not shown or indicated in the Contract Documents, or was not shown or indicated with reasonable accuracy; obtain any pertinent cost or schedule information from Contractor; prepare recommendations to Owner regarding the Contractor’s resumption of Work in connection with the Underground Facility in question; determine the extent, if any, to
which a change is required in the Drawings or Specifications to reflect and document the consequences of the existence or location of the Underground Facility; and advise Owner in writing of Engineer’s findings, conclusions, and recommendations. During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.

D. **Owner’s Statement to Contractor Regarding Underground Facility:** After receipt of Engineer’s written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the Underground Facility in question, addressing the resumption of Work in connection with such Underground Facility, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer’s written findings, conclusions, and recommendations in whole or in part.

E. **Possible Price and Times Adjustments:**

1. Contractor shall be entitled to an equitable adjustment in the Contract Price or Contract Times, or both, to the extent that any existing Underground Facility at the Site that was not shown or indicated in the Contract Documents, or was not shown or indicated with reasonable accuracy, or any related delay, disruption, or interference, causes an increase or decrease in Contractor’s cost of, or time required for, performance of the Work; subject, however, to the following:

   a. Contractor did not know of and could not reasonably have been expected to be aware of or to have anticipated the existence or actual location of the Underground Facility in question;

   b. With respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraph 13.03;

   c. Contractor’s entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor’s ability to complete the Work within the Contract Times; and

   d. Contractor gave the notice required in Paragraph 5.05.B.

2. If Owner and Contractor agree regarding Contractor’s entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, or both, then any such adjustment shall be set forth in a Change Order.

3. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, or both, no later than 30 days after Owner’s issuance of the Owner’s written statement to Contractor regarding the Underground Facility in question.

5.06 **Hazardous Environmental Conditions at Site**

A. **Reports and Drawings:** The Supplementary Conditions identify:

1. those reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site; and

2. Technical Data contained in such reports and drawings.

B. **Reliance by Contractor on Technical Data Authorized:** Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no such express identification has been made, then Contractor may rely on the accuracy of the Technical Data (as defined in Article 1) contained in any geotechnical or environmental report prepared for the Project and made available to Contractor. Except for such reliance on Technical Data, Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors with respect to:

1. the completeness of such reports and drawings for Contractor’s purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures of construction to be employed by Contractor and safety precautions and programs incident thereto; or

2. other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings; or
3. any Contractor interpretation of or conclusion drawn from any Technical Data or any such other data, interpretations, opinions or information.

C. Contractor shall not be responsible for removing or remediating any Hazardous Environmental Condition encountered, uncovered, or revealed at the Site unless such removal or remediation is expressly identified in the Contract Documents to be within the scope of the Work.

D. Contractor shall be responsible for controlling, containing, and duly removing all Constituents of Concern brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible, and for any associated costs; and for the costs of removing and remediating any Hazardous Environmental Condition created by the presence of any such Constituents of Concern.

E. If Contractor encounters, uncovers, or reveals a Hazardous Environmental Condition whose removal or remediation is not expressly identified in the Contract Documents as being within the scope of the Work, or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, then Contractor shall immediately: (1) secure or otherwise isolate such condition; (2) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 7.15); and (3) notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any. Promptly after consulting with Engineer, Owner shall take such actions as are necessary to permit Owner to timely obtain required permits and provide Contractor the written notice required by Paragraph 5.06.F. If Contractor or anyone for whom Contractor is responsible created the Hazardous Environmental Condition in question, then Owner may remove and remediate the Hazardous Environmental Condition, and impose a set-off against payments to account for the associated costs.

F. Contractor shall not resume Work in connection with such Hazardous Environmental Condition or in any affected area until after Owner has obtained any required permits related thereto, and delivered written notice to Contractor either (1) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work, or (2) specifying any special conditions under which such Work may be resumed safely.

G. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, or both, as a result of such Work stoppage or such special conditions under which Work is agreed to be resumed by Contractor, then within 30 days of Owner’s written notice regarding the resumption of Work, Contractor may submit a Change Proposal, or Owner may impose a set-off.

H. If after receipt of such written notice Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then Owner may order the portion of the Work that is in the area affected by such condition to be deleted from the Work, following the contractual change procedures in Article 11. Owner may have such deleted portion of the Work performed by Owner’s own forces or others in accordance with Article 8.

I. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous Environmental Condition (1) was not shown or indicated in the Drawings, Specifications, or other Contract Documents, identified as Technical Data entitled to limited reliance pursuant to limited reliance pursuant to Paragraph 5.06.B, or identified in the Contract Documents to be included within the scope of the Work, and (2) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.H shall obligate Owner to indemnify any individual or entity from and against the consequences of that individual’s or entity’s own negligence.

J. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and
hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the failure to control, contain, or remove a Constituent of Concern brought to the Site by Contractor or by anyone for whom Contractor is responsible, or to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.J shall obligate Contractor to indemnify any individual or entity from and against the consequences of that individual’s or entity’s own negligence.

K. The provisions of Paragraphs 5.03, 5.04, and 5.05 do not apply to the presence of Constituents of Concern or to a Hazardous Environmental Condition uncovered or revealed at the Site.

ARTICLE 6 – BONDS AND INSURANCE

6.01 Performance, Payment, and Other Bonds

A. Contractor shall furnish a performance bond and a payment bond, each in an amount at least equal to the Contract Price, as security for the faithful performance and payment of all of Contractor’s obligations under the Contract. These bonds shall remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified in Paragraph 15.08, whichever is later, except as provided otherwise by Laws or Regulations, the Supplementary Conditions, or other specific provisions of the Contract. Contractor shall also furnish such other bonds as are required by the Supplementary Conditions or other specific provisions of the Contract.

B. All bonds shall be in the form prescribed by the Contract except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in “Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies” as published in Circular 570 (as amended and supplemented) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. A bond signed by an agent or attorney-in-fact must be accompanied by a certified copy of that individual’s authority to bind the surety. The evidence of authority shall show that it is effective on the date the agent or attorney-in-fact signed the accompanying bond.

C. Contractor shall obtain the required bonds from surety companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue bonds in the required amounts.

D. If the surety on a bond furnished by Contractor is declared bankrupt or becomes insolvent, or its right to do business is terminated in any state or jurisdiction where any part of the Project is located, or the surety ceases to meet the requirements above, then Contractor shall promptly notify Owner and Engineer and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which shall comply with the bond and surety requirements above.

E. If Contractor has failed to obtain a required bond, Owner may exclude the Contractor from the Site and exercise Owner’s termination rights under Article 16.

F. Upon request, Owner shall provide a copy of the payment bond to any Subcontractor, Supplier, or other person or entity claiming to have furnished labor or materials used in the performance of the Work.

6.02 Insurance—General Provisions

A. Owner and Contractor shall obtain and maintain insurance as required in this Article and in the Supplementary Conditions.

B. All insurance required by the Contract to be purchased and maintained by Owner or Contractor shall be obtained from insurance companies that are duly licensed or authorized, in the state or jurisdiction in which the Project is located, to issue insurance policies for the required limits and coverages. Unless a different standard is indicated in the Supplementary Conditions, all companies that provide insurance policies required under this Contract shall have an A.M. Best rating of A-VII or better.

C. Contractor shall deliver to Owner, with copies to each named insured and additional insured (as identified in this Article, in the Supplementary Conditions, or elsewhere in the Contract), certificates of insurance establishing that Contractor has obtained and is maintaining the policies, coverages, and
endorsements required by the Contract. Upon request by Owner or any other insured, Contractor shall also furnish other evidence of such required insurance, including but not limited to copies of policies and endorsements, and documentation of applicable self-insured retentions and deductibles. Contractor may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.

D. Owner shall deliver to Contractor, with copies to each named insured and additional insured (as identified in this Article, the Supplementary Conditions, or elsewhere in the Contract), certificates of insurance establishing that Owner has obtained and is maintaining the policies, coverages, and endorsements required of Owner by the Contract (if any). Upon request by Contractor or any other insured, Owner shall also provide other evidence of such required insurance (if any), including but not limited to copies of policies and endorsements, and documentation of applicable self-insured retentions and deductibles. Owner may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.

E. Failure of Owner or Contractor to demand such certificates or other evidence of the other party’s full compliance with these insurance requirements, or failure of Owner or Contractor to identify a deficiency in compliance from the evidence provided, shall not be construed as a waiver of the other party’s obligation to obtain and maintain such insurance.

F. If either party does not purchase or maintain all of the insurance required of such party by the Contract, such party shall notify the other party in writing of such failure prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage.

G. If Contractor has failed to obtain and maintain required insurance, Owner may exclude the Contractor from the Site, impose an appropriate set-off against payment, and exercise Owner’s termination rights under Article 16.

H. Without prejudice to any other right or remedy, if a party has failed to obtain required insurance, the other party may elect to obtain equivalent insurance to protect such other party’s interests at the expense of the party who was required to provide such coverage, and the Contract Price shall be adjusted accordingly.

I. Owner does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Contractor or Contractor’s interests.

J. The insurance and insurance limits required herein shall not be deemed as a limitation on Contractor’s liability under the indemnities granted to Owner and other individuals and entities in the Contract.

6.03 Contractor’s Insurance

A. Workers’ Compensation: Contractor shall purchase and maintain workers’ compensation and employer’s liability insurance for:

1. claims under workers’ compensation, disability benefits, and other similar employee benefit acts.

2. United States Longshoreman and Harbor Workers’ Compensation Act and Jones Act coverage (if applicable).

3. claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor’s employees (by stop-gap endorsement in monopolist worker’s compensation states).

4. Foreign voluntary worker compensation (if applicable).

B. Commercial General Liability—Claims Covered: Contractor shall purchase and maintain commercial general liability insurance, covering all operations by or on behalf of Contractor, on an occurrence basis, against:

1. claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor’s employees.

2. claims for damages insured by reasonably available personal injury liability coverage.

3. claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom.

C. Commercial General Liability—Form and Content: Contractor’s commercial liability policy shall be written on a 1996 (or later) ISO
commercial general liability form (occurrence form) and include the following coverages and endorsements:

1. **Products and completed operations coverage:**
   a. Such insurance shall be maintained for three years after final payment.
   b. Contractor shall furnish Owner and each other additional insured (as identified in the Supplementary Conditions or elsewhere in the Contract) evidence of continuation of such insurance at final payment and three years thereafter.

2. Blanket contractual liability coverage, to the extent permitted by law, including but not limited to coverage of Contractor’s contractual indemnity obligations in Paragraph 7.18.

3. **Broad form property damage coverage.**

4. **Severability of interest.**

5. **Underground, explosion, and collapse coverage.**

6. **Personal injury coverage.**

7. **Additional insured endorsements that include both ongoing operations and products and completed operations coverage through ISO Endorsements CG 20 10 10 01 and CG 20 37 10 01 (together); or CG 20 10 07 04 and CG 20 37 07 04 (together); or their equivalent.**

8. **For design professional additional insureds, ISO Endorsement CG 20 32 07 04, “Additional Insured—Engineers, Architects or Surveyors Not Engaged by the Named Insured” or its equivalent.**

* D. **Automobile liability:** Contractor shall purchase and maintain automobile liability insurance against claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance, or use of any motor vehicle. The automobile liability policy shall be written on an occurrence basis.

* E. **Umbrella or excess liability:** Contractor shall purchase and maintain umbrella or excess liability insurance written over the underlying employer’s liability, commercial general liability, and automobile liability insurance described in the paragraphs above. Subject to industry-standard exclusions, the coverage afforded shall follow form as to each and every one of the underlying policies.

F. **Contractor’s pollution liability insurance:** Contractor shall purchase and maintain a policy covering third-party injury and property damage claims, including clean-up costs, as a result of pollution conditions arising from Contractor’s operations and completed operations. This insurance shall be maintained for no less than three years after final completion.

G. **Additional insureds:** The Contractor’s commercial general liability, automobile liability, umbrella or excess, and pollution liability policies shall include and list as additional insureds Owner and Engineer, and any individuals or entities identified in the Supplementary Conditions; include coverage for the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of all such additional insureds; and the insurance afforded to these additional insureds shall provide primary coverage for all claims covered thereby (including as applicable those arising from both ongoing and completed operations) on a non-contributory basis. Contractor shall obtain all necessary endorsements to support these requirements.

H. **Contractor’s professional liability insurance:** If Contractor will provide or furnish professional services under this Contract, through a delegation of professional design services or otherwise, then Contractor shall be responsible for purchasing and maintaining applicable professional liability insurance. This insurance shall provide protection against claims arising out of performance of professional design or related services, and caused by a negligent error, omission, or act for which the insured party is legally liable. It shall be maintained throughout the duration of the Contract and for a minimum of two years after Substantial Completion. If such professional design services are performed by a Subcontractor, and not by Contractor itself, then the requirements of this paragraph may be satisfied through the purchasing and maintenance of such insurance by such Subcontractor.

I. **General provisions:** The policies of insurance required by this Paragraph 6.03 shall:

1. include at least the specific coverages provided in this Article.
2. be written for not less than the limits of liability provided in this Article and in the Supplementary Conditions, or required by Laws or Regulations, whichever is greater.

3. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed, or renewal refused until at least 10 days prior written notice has been given to Contractor. Within three days of receipt of any such written notice, Contractor shall provide a copy of the notice to Owner, Engineer, and each other insured under the policy.

4. remain in effect at least until final payment (and longer if expressly required in this Article) and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work as a warranty or correction obligation, or otherwise, or returning to the Site to conduct other tasks arising from the Contract Documents.

5. be appropriate for the Work being performed and provide protection from claims that may arise out of or result from Contractor’s performance of the Work and Contractor’s other obligations under the Contract Documents, whether it is to be performed by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable.

J. The coverage requirements for specific policies of insurance must be met by such policies, and not by reference to excess or umbrella insurance provided in other policies.

6.05 Property Insurance

A. Builder’s Risk: Unless otherwise provided in the Supplementary Conditions, Contractor shall purchase and maintain builder’s risk insurance upon the Work on a completed value basis, in the amount of the full insurable replacement cost thereof (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). This insurance shall:

1. include the Owner and Contractor as named insureds, and all Subcontractors, and any individuals or entities required by the Supplementary Conditions to be insured under such builder’s risk policy, as insureds or named insureds. For purposes of the remainder of this Paragraph 6.05, Paragraphs 6.06 and 6.07, and any corresponding Supplementary Conditions, the parties required to be insured shall collectively be referred to as “insureds.”

2. be written on a builder’s risk “all risk” policy form that shall at least include insurance for physical loss or damage to the Work, temporary buildings, falsework, and materials and equipment in transit, and shall insure against at least the following perils or causes of loss: fire; lightning; windstorm; riot; civil commotion; terrorism; vehicle impact; aircraft; smoke; theft; vandalism and malicious mischief; mechanical breakdown, boiler explosion, and artificially generated electric current; earthquake; volcanic activity, and other earth movement; flood; collapse; explosion; debris removal; demolition occasioned by enforcement of Laws and Regulations; water damage (other than that caused by flood); and such other perils or causes of loss as may be specifically required by the Supplementary Conditions. If insurance against mechanical breakdown, boiler explosion, and artificially generated electric current; earthquake; volcanic activity, and other earth movement; or flood, are not commercially available under builder’s risk policies, by endorsement or otherwise, such insurance may be provided through other insurance policies acceptable to Owner and Contractor.
3. cover, as insured property, at least the following: (a) the Work and all materials, supplies, machinery, apparatus, equipment, fixtures, and other property of a similar nature that are to be incorporated into or used in the preparation, fabrication, construction, erection, or completion of the Work, including Owner-furnished or assigned property; (b) spare parts inventory required within the scope of the Contract; and (c) temporary works which are not intended to form part of the permanent constructed Work but which are intended to provide working access to the Site, or to the Work under construction, or which are intended to provide temporary support for the Work under construction, including scaffolding, form work, fences, shoring, falsework, and temporary structures.

4. cover expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects).

5. extend to cover damage or loss to insured property while in temporary storage at the Site or in a storage location outside the Site (but not including property stored at the premises of a manufacturer or Supplier).

6. extend to cover damage or loss to insured property while in transit.

7. allow for partial occupation or use of the Work by Owner, such that those portions of the Work that are not yet occupied or used by Owner shall remain covered by the builder’s risk insurance.

8. allow for the waiver of the insurer’s subrogation rights, as set forth below.

9. provide primary coverage for all losses and damages caused by the perils or causes of loss covered.

10. not include a co-insurance clause.

11. include an exception for ensuing losses from physical damage or loss with respect to any defective workmanship, design, or materials exclusions.

12. include performance/hot testing and start-up.

13. be maintained in effect, subject to the provisions herein regarding Substantial Completion and partial occupancy or use of the Work by Owner, until the Work is complete.

B. Notice of Cancellation or Change: All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained in accordance with this Paragraph 6.05 will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least 10 days prior written notice has been given to the purchasing policyholder. Within three days of receipt of any such written notice, the purchasing policyholder shall provide a copy of the notice to each other insured.

C. Deductibles: The purchaser of any required builder’s risk or property insurance shall pay for costs not covered because of the application of a policy deductible.

D. Partial Occupancy or Use by Owner: If Owner will occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work as provided in Paragraph 15.04, then Owner (directly, if it is the purchaser of the builder’s risk policy, or through Contractor) will provide notice of such occupancy or use to the builder’s risk insurer. The builder’s risk insurance shall not be canceled or permitted to lapse on account of any such partial use or occupancy; rather, those portions of the Work that are occupied or used by Owner may come off the builder’s risk policy, while those portions of the Work not yet occupied or used by Owner shall remain covered by the builder’s risk insurance.

E. Additional Insurance: If Contractor elects to obtain other special insurance to be included in or supplement the builder’s risk or property insurance policies provided under this Paragraph 6.05, it may do so at Contractor’s expense.

F. Insurance of Other Property: If the express insurance provisions of the Contract do not require or address the insurance of a property item or interest, such as tools, construction equipment, or other personal property owned by Contractor, a Subcontractor, or an employee of Contractor or a Subcontractor, then the entity or individual owning such property item will be responsible for deciding whether to insure it, and if so in what amount.
A. All policies purchased in accordance with Paragraph 6.05, expressly including the builder’s risk policy, shall contain provisions to the effect that in the event of payment of any loss or damage the insurers will have no rights of recovery against any insureds thereunder, or against Engineer or its consultants, or their officers, directors, members, partners, employees, agents, consultants, or subcontractors. Owner and Contractor waive all rights against each other and the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, for all losses and damages caused by, arising out of, or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Engineer, its consultants, all Subcontractors, all individuals or entities identified in the Supplementary Conditions as insureds, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, under such policies for losses and damages so caused. None of the above waivers shall extend to the rights that any party making such waiver may have to the proceeds of insurance held by Owner or Contractor as trustee or fiduciary, or otherwise payable under any policy so issued.

B. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, for:

1. loss due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to Owner’s property or the Work caused by, arising out of, or resulting from fire or other perils whether or not insured by Owner; and

2. loss or damage to the completed Project or part thereof caused by, arising out of, or resulting from fire or other insured peril or cause of loss covered by any property insurance maintained on the completed Project or part thereof by Owner during partial occupancy or use pursuant to Paragraph 15.04, after Substantial Completion pursuant to Paragraph 15.03, or after final payment pursuant to Paragraph 15.06.

C. Any insurance policy maintained by Owner covering any loss, damage or consequential loss referred to in Paragraph 6.06.B shall contain provisions to the effect that in the event of payment of any such loss, damage, or consequential loss, the insurers will have no rights of recovery against Contractor, Subcontractors, or Engineer, or the officers, directors, members, partners, employees, agents, consultants, or subcontractors of each and any of them.

D. Contractor shall be responsible for assuring that the agreement under which a Subcontractor performs a portion of the Work contains provisions whereby the Subcontractor waives all rights against Owner, Contractor, all individuals or entities identified in the Supplementary Conditions as insureds, the Engineer and its consultants, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, for all losses and damages caused by, arising out of, relating to, or resulting from any of the perils or causes of loss covered by builder’s risk insurance and any other property insurance applicable to the Work.

6.07 Receipt and Application of Property Insurance Proceeds

A. Any insured loss under the builder’s risk and other policies of insurance required by Paragraph 6.05 will be adjusted and settled with the named insured that purchased the policy. Such named insured shall act as fiduciary for the other insureds, and give notice to such other insureds that adjustment and settlement of a claim is in progress. Any other insured may state its position regarding a claim for insured loss in writing within 15 days after notice of such claim.

B. Proceeds for such insured losses may be made payable by the insurer either jointly to multiple insureds, or to the named insured that purchased the policy in its own right and as fiduciary for other insureds, subject to the requirements of any applicable mortgage clause. A named insured receiving insurance proceeds under the builder’s risk and other policies of insurance required by Paragraph 6.05 shall distribute such proceeds in accordance with such agreement as the parties in interest may reach, or as otherwise required under the dispute resolution provisions of this Contract or applicable Laws and Regulations.
C. If no other special agreement is reached, the damaged Work shall be repaired or replaced, the money so received applied on account thereof, and the Work and the cost thereof covered by Change Order, if needed.

**ARTICLE 7 – CONTRACTOR’S RESPONSIBILITIES**

**7.01 Supervision and Superintendence**

A. Contractor shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction.

B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who shall not be replaced without written notice to Owner and Engineer except under extraordinary circumstances.

**7.02 Labor; Working Hours**

A. Contractor shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. Contractor shall at all times maintain good discipline and order at the Site.

B. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site shall be performed during regular working hours, Monday through Friday. Contractor will not perform Work on a Saturday, Sunday, or any legal holiday. Contractor may perform Work outside regular working hours or on Saturdays, Sundays, or legal holidays only with Owner’s written consent, which will not be unreasonably withheld.

**7.03 Services, Materials, and Equipment**

A. Unless otherwise specified in the Contract Documents, Contractor shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start up, and completion of the Work, whether or not such items are specifically called for in the Contract Documents.

B. All materials and equipment incorporated into the Work shall be of good quality and new, except as otherwise provided in the Contract Documents. All special warranties and guarantees required by the Specifications shall expressly run to the benefit of Owner. If required by Engineer, Contractor shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment.

C. All materials and equipment shall be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

**7.04 “Or Equals”**

A. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the Contract Price has been based upon Contractor furnishing such item as specified. The specification or description of such an item is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or “or equal” item is permitted, Contractor may request that Engineer authorize the use of other items of material or equipment, or items from other proposed suppliers under the circumstances described below.

1. If Engineer in its sole discretion determines that an item of material or equipment proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, Engineer shall deem it an “or equal” item. For the purposes of this paragraph, a proposed item of material or equipment will be considered functionally equal to an item so named if:

   a. in the exercise of reasonable judgment Engineer determines that:

      1) it is at least equal in materials of construction, quality, durability, appearance,
strength, and design characteristics;

2) it will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole;

3) it has a proven record of performance and availability of responsive service; and

4) it is not objectionable to Owner.

b. Contractor certifies that, if approved and incorporated into the Work:

1) there will be no increase in cost to the Owner or increase in Contract Times; and

2) it will conform substantially to the detailed requirements of the item named in the Contract Documents.

B. **Contractor’s Expense:** Contractor shall provide all data in support of any proposed “or equal” item at Contractor’s expense.

C. **Engineer’s Evaluation and Determination:** Engineer will be allowed a reasonable time to evaluate each “or-equal” request. Engineer may require Contractor to furnish additional data about the proposed “or-equal” item. Engineer will be the sole judge of acceptability. No “or-equal” item will be ordered, furnished, installed, or utilized until Engineer's review is complete and Engineer determines that the proposed item is an “or-equal”, which will be evidenced by an approved Shop Drawing or other written communication. Engineer will advise Contractor in writing of any negative determination.

D. **Effect of Engineer’s Determination:** Neither approval nor denial of an “or-equal” request shall result in any change in Contract Price. The Engineer’s denial of an “or-equal” request shall be final and binding, and may not be reversed through an appeal under any provision of the Contract Documents.

E. **Treatment as a Substitution Request:** If Engineer determines that an item of material or equipment proposed by Contractor does not qualify as an “or-equal” item, Contractor may request that Engineer considered the proposed item as a substitute pursuant to Paragraph 7.05.

### 7.05 Substitutes

**A.** Unless the specification or description of an item of material or equipment required to be furnished under the Contract Documents contains or is followed by words reading that no substitution is permitted, Contractor may request that Engineer authorize the use of other items of material or equipment under the circumstances described below. To the extent possible such requests shall be made before commencement of related construction at the Site.

1. Contractor shall submit sufficient information as provided below to allow Engineer to determine if the item of material or equipment proposed is functionally equivalent to that named and an acceptable substitute therefor. Engineer will not accept requests for review of proposed substitute items of material or equipment from anyone other than Contractor.

2. The requirements for review by Engineer will be as set forth in Paragraph 7.05.B, as supplemented by the Specifications, and as Engineer may decide is appropriate under the circumstances.

3. Contractor shall make written application to Engineer for review of a proposed substitute item of material or equipment that Contractor seeks to furnish or use. The application:

   a. shall certify that the proposed substitute item will:

      1) perform adequately the functions and achieve the results called for by the general design,

      2) be similar in substance to that specified, and

      3) be suited to the same use as that specified.

   b. will state:

      1) the extent, if any, to which the use of the proposed substitute item will necessitate a change in Contract Times,
2) whether use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with Owner for other work on the Project) to adapt the design to the proposed substitute item, and

3) whether incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty.

c. will identify:
   1) all variations of the proposed substitute item from that specified, and
   2) available engineering, sales, maintenance, repair, and replacement services.

d. shall contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including but not limited to changes in Contract Price, shared savings, costs of redesign, and claims of other contractors affected by any resulting change.

B. Engineer’s Evaluation and Determination: Engineer will be allowed a reasonable time to evaluate each substitute request, and to obtain comments and direction from Owner. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No substitute will be ordered, furnished, installed, or utilized until Engineer’s review is complete and Engineer determines that the proposed item is an acceptable substitute. Engineer’s determination will be evidenced by a Field Order or a proposed Change Order accounting for the substitution itself and all related impacts, including changes in Contract Price or Contract Times. Engineer will advise Contractor in writing of any negative determination.

C. Special Guarantee: Owner may require Contractor to furnish at Contractor’s expense a special performance guarantee or other surety with respect to any substitute.

D. Reimbursement of Engineer’s Cost: Engineer will record Engineer’s costs in evaluating a substitute proposed or submitted by Contractor. Whether or not Engineer approves a substitute so proposed or submitted by Contractor, Contractor shall reimburse Owner for the reasonable charges of Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the reasonable charges of Engineer for making changes in the Contract Documents (or in the provisions of any other direct contract with Owner) resulting from the acceptance of each proposed substitute.

E. Contractor’s Expense: Contractor shall provide all data in support of any proposed substitute at Contractor’s expense.

F. Effect of Engineer’s Determination: If Engineer approves the substitution request, Contractor shall execute the proposed Change Order and proceed with the substitution. The Engineer’s denial of a substitution request shall be final and binding, and may not be reversed through an appeal under any provision of the Contract Documents. Contractor may challenge the scope of reimbursement costs imposed under Paragraph 7.05.D, by timely submittal of a Change Proposal.

7.06 Concerning Subcontractors, Suppliers, and Others

A. Contractor may retain Subcontractors and Suppliers for the performance of parts of the Work. Such Subcontractors and Suppliers must be acceptable to Owner.

B. Contractor shall retain specific Subcontractors, Suppliers, or other individuals or entities for the performance of designated parts of the Work if required by the Contract to do so.

C. Subsequent to the submittal of Contractor’s Bid or final negotiation of the terms of the Contract, Owner may not require Contractor to retain any Subcontractor, Supplier, or other individual or entity to furnish or perform any of the Work against which Contractor has reasonable objection.

D. Prior to entry into any binding subcontract or purchase order, Contractor shall submit to Owner the identity of the proposed Subcontractor or Supplier (unless Owner has already deemed such proposed Subcontractor or Supplier acceptable, during the bidding process or otherwise). Such proposed Subcontractor or Supplier shall be deemed
acceptable to Owner unless Owner raises a substantive, reasonable objection within five days.

E. Owner may require the replacement of any Subcontractor, Supplier, or other individual or entity retained by Contractor to perform any part of the Work. Owner also may require Contractor to retain specific replacements; provided, however, that Owner may not require a replacement to which Contractor has a reasonable objection. If Contractor has submitted the identity of certain Subcontractors, Suppliers, or other individuals or entities for acceptance by Owner, and Owner has accepted it (either in writing or by failing to make written objection thereto), then Owner may subsequently revoke the acceptance of any such Subcontractor, Supplier, or other individual or entity so identified solely on the basis of substantive, reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity.

F. If Owner requires the replacement of any Subcontractor, Supplier, or other individual or entity retained by Contractor to perform any part of the Work, then Contractor shall be entitled to an adjustment in Contract Price or Contract Times, or both, with respect to the replacement; and Contractor shall initiate a Change Proposal for such adjustment within 30 days of Owner’s requirement of replacement.

G. No acceptance by Owner of any such Subcontractor, Supplier, or other individual or entity, whether initially or as a replacement, shall constitute a waiver of the right of Owner to the completion of the Work in accordance with the Contract Documents.

H. On a monthly basis Contractor shall submit to Engineer a complete list of all Subcontractors and Suppliers having a direct contract with Contractor, and of all other Subcontractors and Suppliers known to Contractor at the time of submittal.

I. Contractor shall be fully responsible to Owner and Engineer for all acts and omissions of the Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work just as Contractor is responsible for Contractor’s own acts and omissions.

J. Contractor shall be solely responsible for scheduling and coordinating the work of Subcontractors, Suppliers, and all other individuals or entities performing or furnishing any of the Work.

K. Contractor shall restrict all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work from communicating with Engineer or Owner, except through Contractor or in case of an emergency, or as otherwise expressly allowed herein.

L. The divisions and sections of the Specifications and the identifications of any Drawings shall not control Contractor in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.

M. All Work performed for Contractor by a Subcontractor or Supplier shall be pursuant to an appropriate contractual agreement that specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of Owner and Engineer.

N. Owner may furnish to any Subcontractor or Supplier, to the extent practicable, information about amounts paid to Contractor on account of Work performed for Contractor by the particular Subcontractor or Supplier.

O. Nothing in the Contract Documents:

1. shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between Owner or Engineer and any such Subcontractor, Supplier, or other individual or entity; nor

2. shall create any obligation on the part of Owner or Engineer to pay or to see to the payment of any money due any such Subcontractor, Supplier, or other individual or entity except as may otherwise be required by Laws and Regulations.

7.07 Patent Fees and Royalties

A. Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if, to the actual
knowledge of Owner or Engineer, its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by Owner in the Contract Documents.

* B. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, and its officers, directors, members, partners, employees, agents, consultants, and subcontractors from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device specified in the Contract Documents, but not identified as being subject to payment of any license fee or royalty to others required by patent rights or copyrights.

C. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

7.08 Permits

A. Unless otherwise provided in the Contract Documents, Contractor shall obtain and pay for all construction permits and licenses. Owner shall assist Contractor, when necessary, in obtaining such permits and licenses. Contractor shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of the submission of Contractor’s Bid (or when Contractor became bound under a negotiated contract). Owner shall pay all charges of utility owners for connections for providing permanent service to the Work.

7.09 Taxes

A. Contractor shall pay all sales, consumer, use, and other similar taxes required to be paid by Contractor in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work.

7.10 Laws and Regulations

A. Contractor shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither Owner nor Engineer shall be responsible for monitoring Contractor’s compliance with any Laws or Regulations.

B. If Contractor performs any Work or takes any other action knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all resulting costs and losses, and shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work or other action. It shall not be Contractor’s responsibility to make certain that the Work described in the Contract Documents is in accordance with Laws and Regulations, but this shall not relieve Contractor of Contractor’s obligations under Paragraph 3.03.

C. Owner or Contractor may give notice to the other party of any changes after the submission of Contractor’s Bid (or after the date when Contractor became bound under a negotiated contract) in Laws or Regulations having an effect on the cost or time of performance of the Work, including but not limited to changes in Laws or Regulations having an effect on procuring permits and on sales, use, value-added, consumption, and other similar taxes. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times resulting from such changes, then within 30 days of

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such notice Contractor may submit a Change Proposal, or Owner may initiate a Claim.

7.11 Record Documents

A. Contractor shall maintain in a safe place at the Site one printed record copy of all Drawings, Specifications, Addenda, Change Orders, Work Change Directives, Field Orders, written interpretations and clarifications, and approved Shop Drawings. Contractor shall keep such record documents in good order and annotate them to show changes made during construction. These record documents, together with all approved Samples, will be available to Engineer for reference. Upon completion of the Work, Contractor shall deliver these record documents to Engineer.

7.12 Safety and Protection

A. Contractor shall be solely responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the Work. Such responsibility does not relieve Subcontractors of their responsibility for the safety of persons or property in the performance of their work, nor for compliance with applicable safety Laws and Regulations. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury, or loss to:

1. all persons on the Site or who may be affected by the Work;
2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and
3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, other work in progress, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.

B. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall notify Owner; the owners of adjacent property, Underground Facilities, and other utilities; and other contractors and utility owners performing work at or adjacent to the Site, when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property or work in progress.

C. Contractor shall comply with the applicable requirements of Owner’s safety programs, if any. The Supplementary Conditions identify any Owner’s safety programs that are applicable to the Work.

D. Contractor shall inform Owner and Engineer of the specific requirements of Contractor’s safety program with which Owner’s and Engineer’s employees and representatives must comply while at the Site.

E. All damage, injury, or loss to any property referred to in Paragraph 7.12.A.2 or 7.12.A.3 caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor at its expense (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of Owner or Engineer or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them).

F. Contractor’s duties and responsibilities for safety and protection shall continue until such time as all the Work is completed and Engineer has issued a notice to Owner and Contractor in accordance with Paragraph 15.06.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).

G. Contractor’s duties and responsibilities for safety and protection shall resume whenever Contractor or any Subcontractor or Supplier returns to the Site to fulfill warranty or correction obligations, or to conduct other tasks arising from the Contract Documents.

7.13 Safety Representative

A. Contractor shall designate a qualified and experienced safety representative at the Site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.
7.14 Hazard Communication Programs

A. Contractor shall be responsible for coordinating any exchange of material safety data sheets or other hazard communication information required to be made available to or exchanged between or among employers at the Site in accordance with Laws or Regulations.

7.15 Emergencies

A. In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, Contractor is obligated to act to prevent threatened damage, injury, or loss. Contractor shall give Engineer prompt written notice if Contractor believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby or are required as a result thereof. If Engineer determines that a change in the Contract Documents is required because of the action taken by Contractor in response to such an emergency, a Work Change Directive or Change Order will be issued.

7.16 Shop Drawings, Samples, and Other Submittals

A. Shop Drawing and Sample Submittal Requirements:

1. Before submitting a Shop Drawing or Sample, Contractor shall have:
   a. reviewed and coordinated the Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents;
   b. determined and verified all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;
   c. determined and verified the suitability of all materials and equipment offered with respect to the indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work; and
   d. determined and verified all information relative to Contractor’s responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto.

2. Each submittal shall bear a stamp or specific written certification that Contractor has satisfied Contractor’s obligations under the Contract Documents with respect to Contractor’s review of that submittal, and that Contractor approves the submittal.

3. With each submittal, Contractor shall give Engineer specific written notice of any variations that the Shop Drawing or Sample may have from the requirements of the Contract Documents. This notice shall be set forth in a written communication separate from the Shop Drawings or Sample submittal; and, in addition, in the case of Shop Drawings by a specific notation made on each Shop Drawing submitted to Engineer for review and approval of each such variation.

B. Submittal Procedures for Shop Drawings and Samples: Contractor shall submit Shop Drawings and Samples to Engineer for review and approval in accordance with the accepted Schedule of Submittals. Each submittal will be identified as Engineer may require.

1. Shop Drawings:
   a. Contractor shall submit the number of copies required in the Specifications.
   b. Data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to provide and to enable Engineer to review the information for the limited purposes required by Paragraph 7.16.D.

2. Samples:
   a. Contractor shall submit the number of Samples required in the Specifications.
   b. Contractor shall clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which
intended and other data as Engineer may require to enable Engineer to review the submittal for the limited purposes required by Paragraph 7.16.D.

3. Where a Shop Drawing or Sample is required by the Contract Documents or the Schedule of Submittals, any related Work performed prior to Engineer’s review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.

C. Other Submittals: Contractor shall submit other submittals to Engineer in accordance with the accepted Schedule of Submittals, and pursuant to the applicable terms of the Specifications.

D. Engineer’s Review:

1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the Schedule of Submittals acceptable to Engineer. Engineer’s review and approval will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.

2. Engineer’s review and approval will not extend to means, methods, techniques, sequences, or procedures of construction or to safety precautions or programs incident thereto.

3. Engineer’s review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.

4. Engineer’s review and approval of a Shop Drawing or Sample shall not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 7.16.A.3 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer will document any such approved variation from the requirements of the Contract Documents in a Field Order.

5. Engineer’s review and approval of a Shop Drawing or Sample shall not relieve Contractor from responsibility for complying with the requirements of Paragraph 7.16.A and B.

6. Engineer’s review and approval of a Shop Drawing or Sample, or of a variation from the requirements of the Contract Documents, shall not, under any circumstances, change the Contract Times or Contract Price, unless such changes are included in a Change Order.

7. Neither Engineer’s receipt, review, acceptance or approval of a Shop Drawing, Sample, or other submittal shall result in such item becoming a Contract Document.

8. Contractor shall perform the Work in compliance with the requirements and commitments set forth in approved Shop Drawings and Samples, subject to the provisions of Paragraph 7.16.D.4.

E. Resubmittal Procedures:

1. Contractor shall make corrections required by Engineer and shall return the required number of corrected copies of Shop Drawings and submit, as required, new Samples for review and approval. Contractor shall direct specific attention in writing to revisions other than the corrections called for by Engineer on previous submittals.

2. Contractor shall furnish required submittals with sufficient information and accuracy to obtain required approval of an item with no more than three submittals. Engineer will record Engineer’s time for reviewing a fourth or subsequent submittal of a Shop Drawing, sample, or other item requiring approval, and Contractor shall be responsible for Engineer’s charges to Owner for such time. Owner may impose a set-off against payments due to Contractor to secure reimbursement for such charges.

3. If Contractor requests a change of a previously approved submittal item, Contractor shall be responsible for Engineer’s charges to Owner for its review time, and Owner may impose a set-off against payments due to
Contractor to secure reimbursement for such charges, unless the need for such change is beyond the control of Contractor.

7.17 **Contractor’s General Warranty and Guarantee**

* A. Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. Engineer and its officers, directors, members, partners, employees, agents, consultants, and subcontractors shall be entitled to rely on Contractor’s warranty and guarantee.

B. Contractor’s warranty and guarantee hereunder excludes defects or damage caused by:

1. abuse, modification, or improper maintenance or operation by persons other than Contractor, Subcontractors, Suppliers, or any other individual or entity for whom Contractor is responsible; or
2. normal wear and tear under normal usage.

* C. Contractor’s obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of Contractor’s obligation to perform the Work in accordance with the Contract Documents:
   1. observations by Engineer;
   2. recommendation by Engineer or payment by Owner of any progress or final payment;
   3. the issuance of a certificate of Substantial Completion by Engineer or any payment related thereto by Owner;
   4. use or occupancy of the Work or any part thereof by Owner;
   5. any review and approval of a Shop Drawing or Sample submittal;
   6. the issuance of a notice of acceptability by Engineer;
   7. any inspection, test, or approval by others; or
   8. any correction of defective Work by Owner.

D. If the Contract requires the Contractor to accept the assignment of a contract entered into by Owner, then the specific warranties, guarantees, and correction obligations contained in the assigned contract shall govern with respect to Contractor’s performance obligations to Owner for the Work described in the assigned contract.

7.18 **Indemnification**

* A. To the fullest extent permitted by Laws and Regulations, and in addition to any other obligations of Contractor under the Contract or otherwise, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the performance of the Work, provided that any such claim, cost, loss, or damage is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom but only to the extent caused by any negligent act or omission of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work or anyone for whose acts any of them may be liable.

B. In any and all claims against Owner or Engineer or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 7.18.A shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such Subcontractor, Supplier, or other individual or entity under workers’ compensation acts, disability benefit acts, or other employee benefit acts.

C. The indemnification obligations of Contractor under Paragraph 7.18.A shall not extend to the liability of Engineer and Engineer’s officers, directors, members, partners, employees,
agents, consultants and subcontractors arising out of:

1. the preparation or approval of, or the failure to prepare or approve maps, Drawings, opinions, reports, surveys, Change Orders, designs, or Specifications; or

2. giving directions or instructions, or failing to give them, if that is the primary cause of the injury or damage.

7.19 Delegation of Professional Design Services

A. Contractor will not be required to provide professional design services unless such services are specifically required by the Contract Documents for a portion of the Work or unless such services are required to carry out Contractor’s responsibilities for construction means, methods, techniques, sequences and procedures. Contractor shall not be required to provide professional services in violation of applicable Laws and Regulations.

B. If professional design services or certifications by a design professional related to systems, materials, or equipment are specifically required of Contractor by the Contract Documents, Owner and Engineer will specify all performance and design criteria that such services must satisfy. Contractor shall cause such services or certifications to be provided by a properly licensed professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional’s written approval when submitted to Engineer.

C. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy, and completeness of the services, certifications, or approvals performed by such design professionals, provided Owner and Engineer have specified to Contractor all performance and design criteria that such services must satisfy.

D. Pursuant to this paragraph, Engineer’s review and approval of Shop Drawings and other submittals (except design calculations and design drawings) will be only for the purpose stated in Paragraph 7.16.D.1.

E. Contractor shall not be responsible for the adequacy of the performance or design criteria specified by Owner or Engineer.

ARTICLE 8 – OTHER WORK AT THE SITE

8.01 Other Work

A. In addition to and apart from the Work under the Contract Documents, the Owner may perform other work at or adjacent to the Site. Such other work may be performed by Owner’s employees, or through contracts between the Owner and third parties. Owner may also arrange to have third-party utility owners perform work on their utilities and facilities at or adjacent to the Site.

B. If Owner performs other work at or adjacent to the Site with Owner’s employees, or through contracts for such other work, then Owner shall give Contractor written notice thereof prior to starting any such other work. If Owner has advance information regarding the start of any utility work at or adjacent to the Site, Owner shall provide such information to Contractor.

C. Contractor shall afford each other contractor that performs such other work, each utility owner performing other work, and Owner, if Owner is performing other work with Owner’s employees, proper and safe access to the Site, and provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work. Contractor shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating, or otherwise altering such work; provided, however, that Contractor may cut or alter others' work with the written consent of Engineer and the others whose work will be affected.

D. If the proper execution or results of any part of Contractor’s Work depends upon work performed by others under this Article 8, Contractor shall inspect such other work and promptly report to Engineer in writing any delays, defects, or deficiencies in such other
work that render it unavailable or unsuitable for the proper execution and results of Contractor’s Work. Contractor’s failure to so report will constitute an acceptance of such other work as fit and proper for integration with Contractor’s Work except for latent defects and deficiencies in such other work.

8.02 Coordination

A. If Owner intends to contract with others for the performance of other work at or adjacent to the Site, to perform other work at or adjacent to the Site with Owner’s employees, or to arrange to have utility owners perform work at or adjacent to the Site, the following will be set forth in the Supplementary Conditions or provided to Contractor prior to the start of any such other work:

1. the identity of the individual or entity that will have authority and responsibility for coordination of the activities among the various contractors;

2. an itemization of the specific matters to be covered by such authority and responsibility; and

3. the extent of such authority and responsibilities.

* B. Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination.

8.03 Legal Relationships

* A. If, in the course of performing other work at or adjacent to the Site for Owner, the Owner’s employees, any other contractor working for Owner, or any utility owner causes damage to the Work or to the property of Contractor or its Subcontractors, or delays, disrupts, interferes with, or increases the scope or cost of the performance of the Work, through actions or inaction, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times, or both. Contractor must submit any Change Proposal seeking an equitable adjustment in the Contract Price or the Contract Times under this paragraph within 30 days of the damaging, delaying, disrupting, or interfering event. The entitlement to, and extent of, any such equitable adjustment shall take into account information (if any) regarding such other work that was provided to Contractor in the Contract Documents prior to the submittal of the Bid or the final negotiation of the terms of the Contract. When applicable, any such equitable adjustment in Contract Price shall be conditioned on Contractor assigning to Owner all Contractor’s rights against such other contractor or utility owner with respect to the damage, delay, disruption, or interference that is the subject of the adjustment. Contractor’s entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor’s ability to complete the Work within the Contract Times.

* B. Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination.

C. If Contractor damages, delays, disrupts, or interferes with the work of any other contractor, or any utility owner performing other work at or adjacent to the Site, through Contractor’s failure to take reasonable and customary measures to avoid such impacts, or if any claim arising out of Contractor’s actions, inactions, or negligence in performance of the Work at or adjacent to the Site is made by any such other contractor or utility owner against Contractor, Owner, or Engineer, then Contractor shall (1) promptly attempt to settle the claim as to all parties through negotiations with such other contractor or utility owner, or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law, and (2) indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents,
consultants and subcontractors of each and any of them from and against any such claims, and against all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such damage, delay, disruption, or interference.

ARTICLE 9 – OWNER’S RESPONSIBILITIES

9.01 Communications to Contractor
A. Except as otherwise provided in these General Conditions, Owner shall issue all communications to Contractor through Engineer.

9.02 Replacement of Engineer
A. Owner may at its discretion appoint an engineer to replace Engineer, provided Contractor makes no reasonable objection to the replacement engineer. The replacement engineer’s status under the Contract Documents shall be that of the former Engineer.

9.03 Furnish Data
A. Owner shall promptly furnish the data required of Owner under the Contract Documents.

9.04 Pay When Due
A. Owner shall make payments to Contractor when they are due as provided in the Agreement.

9.05 Lands and Easements; Reports, Tests, and Drawings
A. Owner’s duties with respect to providing lands and easements are set forth in Paragraph 5.01.
B. Owner’s duties with respect to providing engineering surveys to establish reference points are set forth in Paragraph 4.03.
C. Article 5 refers to Owner’s identifying and making available to Contractor copies of reports of explorations and tests of conditions at the Site, and drawings of physical conditions relating to existing surface or subsurface structures at the Site.

9.06 Insurance
A. Owner’s responsibilities, if any, with respect to purchasing and maintaining liability and property insurance are set forth in Article 6.

9.07 Change Orders
A. Owner’s responsibilities with respect to Change Orders are set forth in Article 11.

9.08 Inspections, Tests, and Approvals
A. Owner’s responsibility with respect to certain inspections, tests, and approvals is set forth in Paragraph 14.02.B.

9.09 Limitations on Owner’s Responsibilities
A. The Owner shall not supervise, direct, or have control or authority over, nor be responsible for, Contractor’s means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Owner will not be responsible for Contractor’s failure to perform the Work in accordance with the Contract Documents.

9.10 Undisclosed Hazardous Environmental Condition
A. Owner’s responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in Paragraph 5.06.

9.11 Evidence of Financial Arrangements
A. Upon request of Contractor, Owner shall furnish Contractor reasonable evidence that financial arrangements have been made to satisfy Owner’s obligations under the Contract Documents (including obligations under proposed changes in the Work).

9.12 Safety Programs
A. While at the Site, Owner’s employees and representatives shall comply with the specific applicable requirements of Contractor’s safety programs of which Owner has been informed.
B. Owner shall furnish copies of any applicable Owner safety programs to Contractor.

ARTICLE 10 – ENGINEER’S STATUS DURING CONSTRUCTION

10.01 Owner’s Representative
A. Engineer will be Owner’s representative during the construction period. The duties and responsibilities and the limitations of authority of Engineer as Owner’s representative during construction are set forth in the Contract.
10.02 Visits to Site

A. Engineer will make visits to the Site at intervals appropriate to the various stages of construction as Engineer deems necessary in order to observe as an experienced and qualified design professional the progress that has been made and the quality of the various aspects of Contractor’s executed Work. Based on information obtained during such visits and observations, Engineer, for the benefit of Owner, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. Engineer will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. Engineer’s efforts will be directed toward providing for Owner a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and observations, Engineer will keep Owner informed of the progress of the Work and will endeavor to guard Owner against defective Work.

B. Engineer’s visits and observations are subject to all the limitations on Engineer’s authority and responsibility set forth in Paragraph 10.08. Particularly, but without limitation, during or as a result of Engineer’s visits or observations of Contractor’s Work, Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor’s means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work.

10.03 Project Representative

* A. If Owner and Engineer have agreed that Engineer will furnish a Resident Project Representative to represent Engineer at the Site and assist Engineer in observing the progress and quality of the Work, then the authority and responsibilities of any such Resident Project Representative will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided in Paragraph 10.08. If Owner designates another representative or agent to represent Owner at the Site who is not Engineer’s consultant, agent, or employee, the responsibilities and authority and limitations thereon of such other individual or entity will be as provided in the Supplementary Conditions.

10.04 Rejecting Defective Work

A. Engineer has the authority to reject Work in accordance with Article 14.

10.05 Shop Drawings, Change Orders and Payments

A. Engineer’s authority, and limitations thereof, as to Shop Drawings and Samples, are set forth in Paragraph 7.16.

B. Engineer’s authority, and limitations thereof, as to design calculations and design drawings submitted in response to a delegation of professional design services, if any, are set forth in Paragraph 7.19.

C. Engineer’s authority as to Change Orders is set forth in Article 11.

D. Engineer’s authority as to Applications for Payment is set forth in Article 15.

10.06 Determinations for Unit Price Work

A. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor as set forth in Paragraph 13.03.

10.07 Decisions on Requirements of Contract Documents and Acceptability of Work

A. Engineer will render decisions regarding the requirements of the Contract Documents, and judge the acceptability of the Work, pursuant to the specific procedures set forth herein for initial interpretations, Change Proposals, and acceptance of the Work. In rendering such decisions and judgments, Engineer will not show partiality to Owner or Contractor, and will not be liable to Owner, Contractor, or others in connection with any proceedings, interpretations, decisions, or judgments conducted or rendered in good faith.

10.08 Limitations on Engineer’s Authority and Responsibilities

A. Neither Engineer’s authority or responsibility under this Article 10 or under any other provision of the Contract, nor any decision made by Engineer in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by Engineer, shall create, impose, or give rise to any duty in contract, tort, or otherwise owed by Engineer to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.
B. Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor’s means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Engineer will not be responsible for Contractor’s failure to perform the Work in accordance with the Contract Documents.

C. Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.

D. Engineer’s review of the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by Paragraph 15.06.A will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests, and approvals, that the results certified indicate compliance with the Contract Documents.

E. The limitations upon authority and responsibility set forth in this Paragraph 10.08 shall also apply to the Resident Project Representative, if any.

10.09 Compliance with Safety Program

A. While at the Site, Engineer’s employees and representatives will comply with the specific applicable requirements of Owner’s and Contractor’s safety programs (if any) of which Engineer has been informed.

ARTICLE 11 – AMENDING THE CONTRACT DOCUMENTS; CHANGES IN THE WORK

11.01 Amending and Supplementing Contract Documents

A. The Contract Documents may be amended or supplemented by a Change Order, a Work Change Directive, or a Field Order.

1. Change Orders:
   a. If an amendment or supplement to the Contract Documents includes a change in the Contract Price or the Contract Times, such amendment or supplement must be set forth in a Change Order. A Change Order also may be used to establish amendments and supplements of the Contract Documents that do not affect the Contract Price or Contract Times.

b. Owner and Contractor may amend those terms and conditions of the Contract Documents that do not involve (1) the performance or acceptability of the Work, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, without the recommendation of the Engineer. Such an amendment shall be set forth in a Change Order.

2. Work Change Directives: A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the modification ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order, following negotiations by the parties as to the Work Change Directive’s effect, if any, on the Contract Price and Contract Times; or, if negotiations are unsuccessful, by a determination under the terms of the Contract Documents governing adjustments, expressly including Paragraph 11.04 regarding change of Contract Price. Contractor must submit any Change Proposal seeking an adjustment of the Contract Price or the Contract Times, or both, no later than 30 days after the completion of the Work set out in the Work Change Directive. Owner must submit any Claim seeking an adjustment of the Contract Price or the Contract Times, or both, no later than 60 days after issuance of the Work Change Directive.

3. Field Orders: Engineer may authorize minor changes in the Work if the changes do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Such changes will be accomplished by a Field Order and will be binding on Owner and also on Contractor, which shall perform the Work involved promptly. If Contractor
believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, or both, then before proceeding with the Work at issue, Contractor shall submit a Change Proposal as provided herein.

11.02 Owner-Authorized Changes in the Work

A. Without invalidating the Contract and without notice to any surety, Owner may, at any time or from time to time, order additions, deletions, or revisions in the Work. Such changes shall be supported by Engineer’s recommendation, to the extent the change involves the design (as set forth in the Drawings, Specifications, or otherwise), or other engineering or technical matters. Such changes may be accomplished by a Change Order, if Owner and Contractor have agreed as to the effect, if any, of the changes on Contract Times or Contract Price; or by a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved; or, in the case of a deletion in the Work, promptly cease construction activities with respect to such deleted Work. Added or revised Work shall be performed under the applicable conditions of the Contract Documents. Nothing in this paragraph shall obligate Contractor to undertake work that Contractor reasonably concludes cannot be performed in a manner consistent with Contractor’s safety obligations under the Contract Documents or Laws and Regulations.

11.03 Unauthorized Changes in the Work

A. Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents, as amended, modified, or supplemented, except in the case of an emergency as provided in Paragraph 7.15 or in the case of uncovering Work as provided in Paragraph 14.05.

11.04 Change of Contract Price

A. The Contract Price may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Price shall comply with the provisions of Paragraph 11.06. Any Claim for an adjustment of Contract Price shall comply with the provisions of Article 12.

B. An adjustment in the Contract Price will be determined as follows:

1. where the Work involved is covered by unit prices contained in the Contract Documents, then by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 13.03); or

2. where the Work involved is not covered by unit prices contained in the Contract Documents, then by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 11.04.C.2); or

3. where the Work involved is not covered by unit prices contained in the Contract Documents and the parties do not reach mutual agreement to a lump sum, then on the basis of the Cost of the Work (determined as provided in Paragraph 13.01) plus a Contractor’s fee for overhead and profit (determined as provided in Paragraph 11.04.C).

C. Contractor’s Fee: When applicable, the Contractor’s fee for overhead and profit shall be determined as follows:

1. a mutually acceptable fixed fee; or

2. if a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:

   a. for costs incurred under Paragraphs 13.01.B.1 and 13.01.B.2, the Contractor’s fee shall be 15 percent;

   b. for costs incurred under Paragraph 13.01.B.3, the Contractor’s fee shall be five percent;

   c. where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of Paragraphs 11.01.C.2.a and 11.01.C.2.b is that the Contractor’s fee shall be based on: (1) a fee of 15 percent of the costs incurred under Paragraphs 13.01.A.1 and 13.01.A.2 by the Subcontractor that actually performs the Work, at whatever tier, and (2) with respect to Contractor itself and to any Subcontractors of a tier higher than
that of the Subcontractor that actually performs the Work, a fee of 5 percent of the amount (fee plus underlying costs incurred) attributable to the next lower tier Subcontractor; provided, however, that for any such subcontracted work the maximum total fee to be paid by Owner shall be no greater than 27 percent of the costs incurred by the Subcontractor that actually performs the work;

d. no fee shall be payable on the basis of costs itemized under Paragraphs 13.01.B.4, 13.01.B.5, and 13.01.C;

e. the amount of credit to be allowed by Contractor to Owner for any change which results in a net decrease in cost will be the amount of the actual net decrease in cost plus a deduction in Contractor’s fee by an amount equal to five percent of such net decrease; and

f. when both additions and credits are involved in any one change, the adjustment in Contractor’s fee shall be computed in accordance with Paragraphs 11.04.C.2.a through 11.04.C.2.e, inclusive.

11.05 Change of Contract Times

A. The Contract Times may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Times shall comply with the provisions of Paragraph 11.06. Any Claim for an adjustment in the Contract Times shall comply with the provisions of Article 12.

B. An adjustment of the Contract Times shall be subject to the limitations set forth in Paragraph 4.05, concerning delays in Contractor’s progress.

11.06 Change Proposals

A. Contractor shall submit a Change Proposal to Engineer to request an adjustment in the Contract Times or Contract Price; appeal an initial decision by Engineer concerning the requirements of the Contract Documents or relating to the acceptability of the Work under the Contract Documents; contest a set-off against payment due; or seek other relief under the Contract. The Change Proposal shall specify any proposed change in Contract Times or Contract Price, or both, or other proposed relief, and explain the reason for the proposed change, with citations to any governing or applicable provisions of the Contract Documents.

1. Procedures: Contractor shall submit each Change Proposal to Engineer promptly (but in no event later than 30 days) after the start of the event giving rise thereto, or after such initial decision. The Contractor shall submit supporting data, including the proposed change in Contract Price or Contract Time (if any), to the Engineer and Owner within 15 days after the submittal of the Change Proposal. The supporting data shall be accompanied by a written statement that the supporting data are accurate and complete, and that any requested time or price adjustment is the entire adjustment to which Contractor believes it is entitled as a result of said event. Engineer will advise Owner regarding the Change Proposal, and consider any comments or response from Owner regarding the Change Proposal.

2. Engineer’s Action: Engineer will review each Change Proposal and, within 30 days after receipt of the Contractor’s supporting data, either deny the Change Proposal in whole, approve it in whole, or deny it in part and approve it in part. Such actions shall be in writing, with a copy provided to Owner and Contractor. If Engineer does not take action on the Change Proposal within 30 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of Engineer’s inaction the Change Proposal is deemed denied, thereby commencing the time for appeal of the denial under Article 12.

3. Binding Decision: Engineer’s decision will be final and binding upon Owner and Contractor, unless Owner or Contractor appeals the decision by filing a Claim under Article 12.

B. Resolution of Certain Change Proposals: If the Change Proposal does not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters, then Engineer will notify the parties that the Engineer is unable to resolve the Change Proposal. For purposes of further resolution of such a Change Proposal, such notice shall be deemed a denial, and
Contractor may choose to seek resolution under the terms of Article 12.

11.07 Execution of Change Orders

A. Owner and Contractor shall execute appropriate Change Orders covering:

1. changes in the Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive;

2. changes in Contract Price resulting from an Owner set-off, unless Contractor has duly contested such set-off;

3. changes in the Work which are: (a) ordered by Owner pursuant to Paragraph 11.02, (b) required because of Owner’s acceptance of defective Work under Paragraph 14.04 or Owner’s correction of defective Work under Paragraph 14.07, or (c) agreed to by the parties, subject to the need for Engineer’s recommendation if the change in the Work involves the design (as set forth in the Drawings, Specifications, or otherwise), or other engineering or technical matters; and

4. changes in the Contract Price or Contract Times, or other changes, which embody the substance of any final and binding results under Paragraph 11.06, or Article 12.

B. If Owner or Contractor refuses to execute a Change Order that is required to be executed under the terms of this Paragraph 11.07, it shall be deemed to be of full force and effect, as if fully executed.

11.08 Notification to Surety

A. If the provisions of any bond require notice to be given to a surety of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times), the giving of any such notice will be Contractor’s responsibility. The amount of each applicable bond will be adjusted to reflect the effect of any such change.

ARTICLE 12 – CLAIMS

12.01 Claims

A. Claims Process: The following disputes between Owner and Contractor shall be submitted to the Claims process set forth in this Article:

1. Appeals by Owner or Contractor of Engineer’s decisions regarding Change Proposals;

2. Owner demands for adjustments in the Contract Price or Contract Times, or other relief under the Contract Documents; and

3. Disputes that Engineer has been unable to address because they do not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters.

B. Submittal of Claim: The party submitting a Claim shall deliver it directly to the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto; in the case of appeals regarding Change Proposals within 30 days of the decision under appeal. The party submitting the Claim shall also furnish a copy to the Engineer, for its information only. The responsibility to substantiate a Claim shall rest with the party making the Claim. In the case of a Claim by Contractor seeking an increase in the Contract Times or Contract Price, or both, Contractor shall certify that the Claim is made in good faith, that the supporting data are accurate and complete, and that to the best of Contractor’s knowledge and belief the amount of time or money requested accurately reflects the full amount to which Contractor is entitled.

C. Review and Resolution: The party receiving a Claim shall review it thoroughly, giving full consideration to its merits. The two parties shall seek to resolve the Claim through the exchange of information and direct negotiations. The parties may extend the time for resolving the Claim by mutual agreement. All actions taken on a Claim shall be stated in writing and submitted to the other party, with a copy to Engineer.

D. Mediation:

1. At any time after initiation of a Claim, Owner and Contractor may mutually
agree to mediation of the underlying dispute. The agreement to mediate shall stay the Claim submittal and response process.

2. If Owner and Contractor agree to mediation, then after 60 days from such agreement, either Owner or Contractor may unilaterally terminate the mediation process, and the Claim submittal and decision process shall resume as of the date of the termination. If the mediation proceeds but is unsuccessful in resolving the dispute, the Claim submittal and decision process shall resume as of the date of the conclusion of the mediation, as determined by the mediator.

3. Owner and Contractor shall each pay one-half of the mediator’s fees and costs.

E. Partial Approval: If the party receiving a Claim approves the Claim in part and denies it in part, such action shall be final and binding unless within 30 days of such action the other party invokes the procedure set forth in Article 17 for final resolution of disputes.

F. Denial of Claim: If efforts to resolve a Claim are not successful, the party receiving the Claim may deny it by giving written notice of denial to the other party. If the receiving party does not take action on the Claim within 90 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of the inaction, the Claim is deemed denied, thereby commencing the time for appeal of the denial. A denial of the Claim shall be final and binding unless within 30 days of the denial the other party invokes the procedure set forth in Article 17 for the final resolution of disputes.

G. Final and Binding Results: If the parties reach a mutual agreement regarding a Claim, whether through approval of the Claim, direct negotiations, mediation, or otherwise; or if a Claim is approved in part and denied in part, or denied in full, and such actions become final and binding; then the results of the agreement or action on the Claim shall be incorporated in a Change Order to the extent they affect the Contract, including the Work, the Contract Times, or the Contract Price.

ARTICLE 13 – COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

13.01 Cost of the Work

A. Purposes for Determination of Cost of the Work: The term Cost of the Work means the sum of all costs necessary for the proper performance of the Work at issue, as further defined below. The provisions of this Paragraph 13.01 are used for two distinct purposes:

1. To determine Cost of the Work when Cost of the Work is a component of the Contract Price, under cost-plus-fee, time-and-materials, or other cost-based terms; or

2. To determine the value of a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price. When the value of any such adjustment is determined on the basis of Cost of the Work, Contractor is entitled only to those additional or incremental costs required because of the change in the Work or because of the event giving rise to the adjustment.

B. Costs Included: Except as otherwise may be agreed to in writing by Owner, costs included in the Cost of the Work shall be in amounts no higher than those prevailing in the locality of the Project, shall not include any of the costs itemized in Paragraph 13.01.C, and shall include only the following items:

1. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor. Such employees shall include, without limitation, superintendents, foremen, and other personnel employed full time on the Work. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits, which shall include social security contributions, unemployment, excise, and payroll taxes, workers’ compensation, health and retirement benefits, bonuses, sick leave, and vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours,
on Saturday, Sunday, or legal holidays, shall be included in the above to the extent authorized by Owner.

2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers’ field services required in connection therewith. All cash discounts shall accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts shall accrue to Owner. All trade discounts, rebates, and refunds and returns from sale of surplus materials and equipment shall accrue to Owner, and Contractor shall make provisions so that they may be obtained.

3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from subcontractors acceptable to Owner and Contractor and shall deliver such bids to Owner, who will then determine, with the advice of Engineer, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor’s Cost of the Work and fee shall be determined in the same manner as Contractor’s Cost of the Work and fee as provided in this Paragraph 13.01.

4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed for services specifically related to the Work.

5. Supplemental costs including the following:
   a. The proportion of necessary transportation, travel, and subsistence expenses of Contractor’s employees incurred in discharge of duties connected with the Work.
   b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.
   c. Rentals of all construction equipment and machinery, and the parts thereof, whether rented from Contractor or others in accordance with rental agreements approved by Owner with the advice of Engineer, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.
   d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, as imposed by Laws and Regulations.
   e. Deposits lost for causes other than negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.
   f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of property insurance established in accordance with Paragraph 6.05), provided such losses and damages have resulted from causes other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses shall be included in the Cost of the Work for the
purpose of determining Contractor’s fee.

g. The cost of utilities, fuel, and sanitary facilities at the Site.

* h. Minor expenses such as communication service at the Site, express and courier services, and similar petty cash items in connection with the Work.

i. The costs of premiums for all bonds and insurance that Contractor is required by the Contract Documents to purchase and maintain.

C. Costs Excluded: The term Cost of the Work shall not include any of the following items:

1. Payroll costs and other compensation of Contractor’s officers, executives, principals (of partnerships and sole proprietorships), general managers, safety managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expediters, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor’s principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 13.01.B.1 or specifically covered by Paragraph 13.01.B.4. The payroll costs and other compensation excluded here are to be considered administrative costs covered by the Contractor’s fee.

2. Expenses of Contractor’s principal and branch offices other than Contractor’s office at the Site.

3. Any part of Contractor’s capital expenses, including interest on Contractor’s capital employed for the Work and charges against Contractor for delinquent payments.

4. Costs due to the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.

5. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraph 13.01.B.

D. Contractor’s Fee: When the Work as a whole is performed on the basis of cost-plus, Contractor’s fee shall be determined as set forth in the Agreement. When the value of any Work covered by a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price is determined on the basis of Cost of the Work, Contractor’s fee shall be determined as set forth in Paragraph 11.04.C.

E. Documentation: Whenever the Cost of the Work for any purpose is to be determined pursuant to this Article 13, Contractor will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in a form acceptable to Engineer an itemized cost breakdown together with supporting data.

13.02 Allowances

A. It is understood that Contractor has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums and by such persons or entities as may be acceptable to Owner and Engineer.

B. Cash Allowances: Contractor agrees that:

1. the cash allowances include the cost to Contractor (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and

2. Contractor’s costs for unloading and handling on the Site, labor, installation, overhead, profit, and other expenses contemplated for the cash allowances have been included in the Contract Price and not in the allowances, and no demand for additional payment on account of any of the foregoing will be valid.

C. Contingency Allowance: Contractor agrees that a contingency allowance, if any, is for the sole use of Owner to cover unanticipated costs.

D. Prior to final payment, an appropriate Change Order will be issued as recommended by Engineer to reflect actual amounts due Contractor on account of Work covered by
allowances, and the Contract Price shall be correspondingly adjusted.

13.03 Unit Price Work

A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.

B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Payments to Contractor for Unit Price Work will be based on actual quantities.

C. Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor’s overhead and profit for each separately identified item.

D. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor the Engineer’s preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Engineer’s written decision thereon will be final and binding (except as modified by Engineer to reflect changed factual conditions or more accurate data) upon Owner and Contractor, subject to the provisions of the following paragraph.

E. Within 30 days of Engineer’s written decision under the preceding paragraph, Contractor may submit a Change Proposal, or Owner may file a Claim, seeking an adjustment in the Contract Price if:

1. the quantity of any item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement;
2. there is no corresponding adjustment with respect to any other item of Work; and
3. Contractor believes that it is entitled to an increase in Contract Price as a result of having incurred additional expense or Owner believes that Owner is entitled to a decrease in Contract Price, and the parties are unable to agree as to the amount of any such increase or decrease.

ARTICLE 14 – TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

14.01 Access to Work

A. Owner, Engineer, their consultants and other representatives of Owner, independent testing laboratories, and authorities having jurisdiction will have access to the Site and the Work at reasonable times for their observation, inspection, and testing. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor’s safety procedures and programs so that they may comply therewith as applicable.

14.02 Tests, Inspections, and Approvals

A. Contractor shall give Engineer timely notice of readiness of the Work (or specific parts thereof) for all required inspections and tests, and shall cooperate with inspection and testing personnel to facilitate required inspections and tests.

B. Owner shall retain and pay for the services of an independent inspector, testing laboratory, or other qualified individual or entity to perform all inspections and tests expressly required by the Contract Documents to be furnished and paid for by Owner, except that costs incurred in connection with tests or inspections of covered Work shall be governed by the provisions of Paragraph 14.05.

C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish Engineer the required certificates of inspection or approval.

D. Contractor shall be responsible for arranging, obtaining, and paying for all inspections and tests required:

1. by the Contract Documents, unless the Contract Documents expressly allocate responsibility for a specific inspection or test to Owner;
2. to attain Owner’s and Engineer’s acceptance of materials or equipment to be incorporated in the Work;

3. by manufacturers of equipment furnished under the Contract Documents;

4. for testing, adjusting, and balancing of mechanical, electrical, and other equipment to be incorporated into the Work; and

5. for acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor’s purchase thereof for incorporation in the Work.

Such inspections and tests shall be performed by independent inspectors, testing laboratories, or other qualified individuals or entities acceptable to Owner and Engineer.

E. If the Contract Documents require the Work (or part thereof) to be approved by Owner, Engineer, or another designated individual or entity, then Contractor shall assume full responsibility for arranging and obtaining such approvals.

F. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Engineer, Contractor shall, if requested by Engineer, uncover such Work for observation. Such uncovering shall be at Contractor’s expense unless Contractor had given Engineer timely notice of Contractor’s intention to cover the same and Engineer had not acted with reasonable promptness in response to such notice.

14.03 Defective Work

A. Contractor’s Obligation: It is Contractor’s obligation to assure that the Work is not defective.

B. Engineer’s Authority: Engineer has the authority to determine whether Work is defective, and to reject defective Work.

C. Notice of Defects: Prompt notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor.

D. Correction, or Removal and Replacement: Promptly after receipt of written notice of defective Work, Contractor shall correct all such defective Work, whether or not fabricated, installed, or completed, or, if Engineer has rejected the defective Work, remove it from the Project and replace it with Work that is not defective.

E. Preservation of Warranties: When correcting defective Work, Contractor shall take no action that would void or otherwise impair Owner’s special warranty and guarantee, if any, on said Work.

F. Costs and Damages: In addition to its correction, removal, and replacement obligations with respect to defective Work, Contractor shall pay all claims, costs, losses, and damages arising out of or relating to defective Work, including but not limited to the cost of the inspection, testing, correction, removal, replacement, or reconstruction of such defective Work, fines levied against Owner by governmental authorities because the Work is defective, and the costs of repair or replacement of work of others resulting from defective Work. Prior to final payment, if Owner and Contractor are unable to agree as to the measure of such claims, costs, losses, and damages resulting from defective Work, then Owner may impose a reasonable set-off against payments due under Article 15.

14.04 Acceptance of Defective Work

A. If, instead of requiring correction or removal and replacement of defective Work, Owner prefers to accept it, Owner may do so (subject, if such acceptance occurs prior to final payment, to Engineer’s confirmation that such acceptance is in general accord with the design intent and applicable engineering principles, and will not endanger public safety). Contractor shall pay all claims, costs, losses, and damages attributable to Owner’s evaluation of and determination to accept such defective Work (such costs to be approved by Engineer as to reasonableness), and for the diminished value of the Work to the extent not otherwise paid by Contractor. If any such acceptance occurs prior to final payment, the necessary revisions in the Contract Documents with respect to the Work shall be incorporated in a Change Order. If the parties are unable to agree as to the decrease in the Contract Price, reflecting the diminished value of Work so accepted, then Owner may impose a reasonable set-off against payments due under Article 15. If the acceptance of defective Work occurs after final payment, Contractor shall pay an appropriate amount to Owner.
14.05 Uncovering Work

A. Engineer has the authority to require special inspection or testing of the Work, whether or not the Work is fabricated, installed, or completed.

B. If any Work is covered contrary to the written request of Engineer, then Contractor shall, if requested by Engineer, uncover such Work for Engineer’s observation, and then replace the covering, all at Contractor’s expense.

C. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, then Contractor, at Engineer’s request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as Engineer may require, that portion of the Work in question, and provide all necessary labor, material, and equipment.

1. If it is found that the uncovered Work is defective, Contractor shall be responsible for all claims, costs, losses, and damages arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and pending Contractor’s full discharge of this responsibility the Owner shall be entitled to impose a reasonable set-off against payments due under Article 15.

2. If the uncovered Work is not found to be defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Times, or both, directly attributable to such uncovering, exposure, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, then Contractor may submit a Change Proposal within 30 days of the determination that the Work is not defective.

14.06 Owner May Stop the Work

A. If the Work is defective, or Contractor fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, then Owner may order Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of Owner to stop the Work shall not give rise to any duty on the part of Owner to exercise this right for the benefit of Contractor, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

14.07 Owner May Correct Defective Work

A. If Contractor fails within a reasonable time after written notice from Engineer to correct defective Work, or to remove and replace rejected Work as required by Engineer, or if Contractor fails to perform the Work in accordance with the Contract Documents, or if Contractor fails to comply with any other provision of the Contract Documents, then Owner may, after seven days written notice to Contractor, correct or remedy any such deficiency.

B. In exercising the rights and remedies under this Paragraph 14.07, Owner shall proceed expeditiously. In connection with such corrective or remedial action, Owner may exclude Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor’s services related thereto, and incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, Owner’s representatives, agents and employees, Owner’s other contractors, and Engineer and Engineer’s consultants access to the Site to enable Owner to exercise the rights and remedies under this paragraph.

C. All claims, costs, losses, and damages incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 14.07 will be charged against Contractor as set-offs against payments due under Article 15. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor’s defective Work.

D. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the exercise by Owner of Owner’s rights and remedies under this Paragraph 14.07.
ARTICLE 15 – PAYMENTS TO CONTRACTOR; SET-OFFS; COMPLETION; CORRECTION PERIOD

15.01 Progress Payments

A. Basis for Progress Payments: The Schedule of Values established as provided in Article 2 will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments on account of Unit Price Work will be based on the number of units completed during the pay period, as determined under the provisions of Paragraph 13.03. Progress payments for cost-based Work will be based on Cost of the Work completed by Contractor during the pay period.

B. Applications for Payments:

1. At least 20 days before the date established in the Agreement for each progress payment (but not more often than once a month), Contractor shall submit to Engineer for review an Application for Payment filled out and signed by Contractor covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice, or other documentation warranting that Owner has received the materials and equipment free and clear of all Liens, and evidence that the materials and equipment are covered by appropriate property insurance, a warehouse bond, or other arrangements to protect Owner’s interest therein, all of which must be satisfactory to Owner.

2. Beginning with the second Application for Payment, each Application shall include an affidavit of Contractor stating that all previous progress payments received on account of the Work have been applied on account to discharge Contractor’s legitimate obligations associated with prior Applications for Payment.

3. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

C. Review of Applications:

1. Engineer will, within 10 days after receipt of each Application for Payment, including each resubmittal, either indicate in writing a recommendation of payment and present the Application to Owner, or return the Application to Contractor indicating in writing Engineer’s reasons for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application.

2. Engineer’s recommendation of any payment requested in an Application for Payment will constitute a representation by Engineer to Owner, based on Engineer’s observations of the executed Work as an experienced and qualified design professional, and on Engineer’s review of the Application for Payment and the accompanying data and schedules, that to the best of Engineer’s knowledge, information and belief:

   a. the Work has progressed to the point indicated;

   b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, the results of any subsequent tests called for in the Contract Documents, a final determination of quantities and classifications for Unit Price Work under Paragraph 13.03, and any other qualifications stated in the recommendation); and

   c. the conditions precedent to Contractor’s being entitled to such payment appear to have been fulfilled in so far as it is Engineer’s responsibility to observe the Work.

3. By recommending any such payment Engineer will not thereby be deemed to have represented that:

   a. inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every
aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract; or

b. there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.

4. Neither Engineer’s review of Contractor’s Work for the purposes of recommending payments nor Engineer’s recommendation of any payment, including final payment, will impose responsibility on Engineer:

a. to supervise, direct, or control the Work, or

b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or

c. for Contractor’s failure to comply with Laws and Regulations applicable to Contractor’s performance of the Work, or

d. to make any examination to ascertain how or for what purposes Contractor has used the money paid on account of the Contract Price, or

e. to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.

5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer’s opinion, it would be incorrect to make the representations to Owner stated in Paragraph 15.01.C.2.

6. Engineer will recommend reductions in payment (set-offs) necessary in Engineer’s opinion to protect Owner from loss because:

a. the Work is defective, requiring correction or replacement;

b. the Contract Price has been reduced by Change Orders;

c. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;

d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible; or

e. Engineer has actual knowledge of the occurrence of any of the events that would constitute a default by Contractor and therefore justify termination for cause under the Contract Documents.

D. Payment Becomes Due:

1. Ten days after presentation of the Application for Payment to Owner with Engineer’s recommendation, the amount recommended (subject to any Owner set-offs) will become due, and when due will be paid by Owner to Contractor.

E. Reductions in Payment by Owner:

1. In addition to any reductions in payment (set-offs) recommended by Engineer, Owner is entitled to impose a set-off against payment based on any of the following:

a. claims have been made against Owner on account of Contractor’s conduct in the performance or furnishing of the Work, or Owner has incurred costs, losses, or damages on account of Contractor’s conduct in the performance or furnishing of the Work, including but not limited to claims, costs, losses, or damages from workplace injuries, adjacent property damage, non-compliance with Laws and Regulations, and patent infringement;

b. Contractor has failed to take reasonable and customary measures to avoid damage, delay, disruption, and interference with other work at or adjacent to the Site;

c. Contractor has failed to provide and maintain required bonds or insurance;
d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible;

e. Owner has incurred extra charges or engineering costs related to submittal reviews, evaluations of proposed substitutes, tests and inspections, or return visits to manufacturing or assembly facilities;

f. the Work is defective, requiring correction or replacement;

g. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;

h. the Contract Price has been reduced by Change Orders;

i. an event that would constitute a default by Contractor and therefore justify a termination for cause has occurred;

j. liquidated damages have accrued as a result of Contractor’s failure to achieve Milestones, Substantial Completion, or final completion of the Work;

k. Liens have been filed in connection with the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of such Liens;

l. there are other items entitling Owner to a set off against the amount recommended.

2. If Owner imposes any set-off against payment, whether based on its own knowledge or on the written recommendations of Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and the specific amount of the reduction, and promptly pay Contractor any amount remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, if Contractor remedies the reasons for such action. The reduction imposed shall be binding on Contractor unless it duly submits a Change Proposal contesting the reduction.

3. Upon a subsequent determination that Owner’s refusal of payment was not justified, the amount wrongfully withheld shall be treated as an amount due as determined by Paragraph 15.01.C.1 and subject to interest as provided in the Agreement.

15.02 Contractor’s Warranty of Title

A. Contractor warrants and guarantees that title to all Work, materials, and equipment furnished under the Contract will pass to Owner free and clear of (1) all Liens and other title defects, and (2) all patent, licensing, copyright, or royalty obligations, no later than seven days after the time of payment by Owner.

15.03 Substantial Completion

A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete and request that Engineer issue a certificate of Substantial Completion. Contractor shall at the same time submit to Owner and Engineer an initial draft of punch list items to be completed or corrected before final payment.

B. Promptly after Contractor’s notification, * Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefor.

C. If Engineer considers the Work substantially complete, Engineer will deliver to Owner a preliminary certificate of Substantial Completion which shall fix the date of Substantial Completion. Engineer shall attach to the certificate a punch list of items to be completed or corrected before final payment. Owner shall have seven days after receipt of the preliminary certificate during which to make written objection to Engineer as to any provisions of the certificate or attached punch list. If, after considering the objections to the provisions of the preliminary certificate, Engineer concludes that the Work is not substantially complete, Engineer will, within 14 days after submission of the preliminary certificate to Owner, notify Contractor in
writing that the Work is not substantially complete, stating the reasons therefor. If Owner does not object to the provisions of the certificate, or if despite consideration of Owner’s objections Engineer concludes that the Work is substantially complete, then Engineer will, within said 14 days, execute and deliver to Owner and Contractor a final certificate of Substantial Completion (with a revised punch list of items to be completed or corrected) reflecting such changes from the preliminary certificate as Engineer believes justified after consideration of any objections from Owner.

D. At the time of receipt of the preliminary certificate of Substantial Completion, Owner and Contractor will confer regarding Owner’s use or occupancy of the Work following Substantial Completion, review the builder’s risk insurance policy with respect to the end of the builder’s risk coverage, and confirm the transition to coverage of the Work under a permanent property insurance policy held by Owner. Unless Owner and Contractor agree otherwise in writing, Owner shall bear responsibility for security, operation, protection of the Work, property insurance, maintenance, heat, and utilities upon Owner’s use or occupancy of the Work.

E. After Substantial Completion the Contractor shall promptly begin work on the punch list of items to be completed or corrected prior to final payment. In appropriate cases Contractor may submit monthly Applications for Payment for completed punch list items, following the progress payment procedures set forth above.

F. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to remove its property and complete or correct items on the punch list.

15.04 Partial Use or Occupancy

A. Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which Owner, Engineer, and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by Owner for its intended purpose without significant interference with Contractor’s performance of the remainder of the Work, subject to the following conditions:

1. At any time Owner may request in writing that Contractor permit Owner to use or occupy any such part of the Work that Owner believes to be substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor, Owner, and Engineer will follow the procedures of Paragraph 15.03.A through E for that part of the Work.

2. At any time Contractor may notify Owner and Engineer in writing that Contractor considers any such part of the Work substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.

3. Within a reasonable time after either such request, Owner, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion. If Engineer does not consider that part of the Work to be substantially complete, Engineer will notify Owner and Contractor in writing giving the reasons therefor. If Engineer considers that part of the Work to be substantially complete, the provisions of Paragraph 15.03 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.

4. No use or occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of Paragraph 6.05 regarding builder’s risk or other property insurance.

15.05 Final Inspection

A. Upon written notice from Contractor that the entire Work or an agreed portion thereof is complete, Engineer will promptly make a final inspection with Owner and Contractor and will notify Contractor in writing of all particulars in which this inspection reveals that the Work, or agreed portion thereof, is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.
15.06 **Final Payment**

A. **Application for Payment:**

1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance, certificates of inspection, annotated record documents (as provided in Paragraph 7.11), and other documents, Contractor may make application for final payment.

2. The final Application for Payment shall be accompanied (except as previously delivered) by:
   
   a. all documentation called for in the Contract Documents;
   
   b. consent of the surety, if any, to final payment;
   
   c. satisfactory evidence that all title issues have been resolved such that title to all Work, materials, and equipment has passed to Owner free and clear of any Liens or other title defects, or will so pass upon final payment.
   
   d. a list of all disputes that Contractor believes are unsettled; and
   
   e. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of the Work, and of Liens filed in connection with the Work.

3. In lieu of the releases or waivers of Liens specified in Paragraph 15.06.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (a) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (b) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner might in any way be responsible, or which might in any way result in liens or other burdens on Owner's property, have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, Contractor may furnish a bond or other collateral satisfactory to Owner to indemnify Owner against any Lien, or Owner at its option may issue joint checks payable to Contractor and specified Subcontractors and Suppliers.

B. **Engineer’s Review of Application and Acceptance:**

1. If, on the basis of Engineer’s observation of the Work during construction and final inspection, and Engineer’s review of the final Application for Payment and accompanying documentation as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor’s other obligations under the Contract have been fulfilled, Engineer will, within ten days after receipt of the final Application for Payment, indicate in writing Engineer’s recommendation of final payment and present the Application for Payment to Owner for payment. Such recommendation shall account for any set-offs against payment that are necessary in Engineer’s opinion to protect Owner from loss for the reasons stated above with respect to progress payments. At the same time Engineer will also give written notice to Owner and Contractor that the Work is acceptable, subject to the provisions of Paragraph 15.07. Otherwise, Engineer will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application for Payment.

C. **Completion of Work:** The Work is complete (subject to surviving obligations) when it is ready for final payment as established by the Engineer’s written recommendation of final payment.

D. **Payment Becomes Due:** Thirty days after the presentation to Owner of the final Application for Payment and accompanying documentation, the amount recommended by Engineer (less any further sum Owner is entitled to set off against Engineer’s recommendation, including but not limited to set-offs for liquidated damages and set-offs allowed under the provisions above with respect to progress payments) will become due and shall be paid by Owner to Contractor.
15.07 Waiver of Claims

A. The making of final payment will not constitute a waiver by Owner of claims or rights against Contractor. Owner expressly reserves claims and rights arising from unsettled Liens, from defective Work appearing after final inspection pursuant to Paragraph 15.05, from Contractor’s failure to comply with the Contract Documents or the terms of any special guarantees specified therein, from outstanding Claims by Owner, or from Contractor’s continuing obligations under the Contract Documents.

B. The acceptance of final payment by Contractor will constitute a waiver by Contractor of all claims and rights against Owner other than those pending matters that have been duly submitted or appealed under the provisions of Article 17.

15.08 Correction Period

A. If within one year after the date of Substantial Completion (or such longer period of time as may be prescribed by the terms of any applicable special guarantee required by the Contract Documents, or by any specific provision of the Contract Documents), any Work is found to be defective, or if the repair of any damages to the Site, adjacent areas that Contractor has arranged to use through construction easements or otherwise, and other adjacent areas used by Contractor as permitted by Laws and Regulations, is found to be defective, then Contractor shall promptly, without cost to Owner and in accordance with Owner’s written instructions:
   1. correct the defective repairs to the Site or such other adjacent areas;
   2. correct such defective Work;
   3. if the defective Work has been rejected by Owner, remove it from the Project and replace it with Work that is not defective, and
   4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others, or to other land or areas resulting therefrom.

B. If Contractor does not promptly comply with the terms of Owner’s written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others).

C. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications.

D. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this paragraph, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.

E. Contractor’s obligations under this paragraph are in addition to all other obligations and warranties. The provisions of this paragraph shall not be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.

ARTICLE 16 – SUSPENSION OF WORK AND TERMINATION

16.01 Owner May Suspend Work

A. At any time and without cause, Owner may suspend the Work or any portion thereof for a period of not more than 90 consecutive days by written notice to Contractor and Engineer. Such notice will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be entitled to an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension. Any Change Proposal seeking such adjustments shall be submitted no later than 30 days after the date fixed for resumption of Work.

16.02 Owner May Terminate for Cause

A. The occurrence of any one or more of the following events will constitute a default by Contractor and justify termination for cause:

   1. Contractor’s persistent failure to perform the Work in accordance with the
Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the Progress Schedule);

2. Failure of Contractor to perform or otherwise to comply with a material term of the Contract Documents;

3. Contractor’s disregard of Laws or Regulations of any public body having jurisdiction; or

4. Contractor’s repeated disregard of the authority of Owner or Engineer.

B. If one or more of the events identified in Paragraph 16.02.A occurs, then after giving Contractor (and any surety) ten days written notice that Owner is considering a declaration that Contractor is in default and termination of the contract, Owner may proceed to:

1. declare Contractor to be in default, and give Contractor (and any surety) notice that the Contract is terminated; and

2. enforce the rights available to Owner under any applicable performance bond.

C. Subject to the terms and operation of any applicable performance bond, if Owner has terminated the Contract for cause, Owner may exclude Contractor from the Site, take possession of the Work, incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere, and complete the Work as Owner may deem expedient.

D. Owner may not proceed with termination of the Contract under Paragraph 16.02.B if Contractor within seven days of receipt of notice of intent to terminate begins to correct its failure to perform and proceeds diligently to cure such failure.

E. If Owner proceeds as provided in Paragraph 16.02.B, Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds the cost to complete the Work, including all related claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals) sustained by Owner, such excess will be paid to Contractor. If the cost to complete the Work including such related claims, costs, losses, and damages exceeds such unpaid balance, Contractor shall pay the difference to Owner.

Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their reasonableness and, when so approved by Engineer, incorporated in a Change Order. When exercising any rights or remedies under this paragraph, Owner shall not be required to obtain the lowest price for the Work performed.

F. Where Contractor’s services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue, or any rights or remedies of Owner against Contractor or any surety under any payment bond or performance bond. Any retention or payment of money due Contractor by Owner will not release Contractor from liability.

G. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 6.01.A, the provisions of that bond shall govern over any inconsistent provisions of Paragraphs 16.02.B and 16.02.D.

16.03 Owner May Terminate For Convenience

A. Upon seven days written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract. In such case, Contractor shall be paid for (without duplication of any items):

1. completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;

2. expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses; and

3. other reasonable expenses directly attributable to termination, including costs incurred to prepare a termination for convenience cost proposal.

B. Contractor shall not be paid on account of loss of anticipated overhead, profits, or revenue, or other economic loss arising out of or resulting from such termination.
16.04 Contractor May Stop Work or Terminate

A. If, through no act or fault of Contractor, (1) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (2) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (3) Owner fails for 30 days to pay Contractor any sum finally determined to be due, then Contractor may, upon seven days written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the contract and recover from Owner payment on the same terms as provided in Paragraph 16.03.

B. In lieu of terminating the Contract and without prejudice to any other right or remedy, if Engineer has failed to act on an Application for Payment within 30 days after it is submitted, or Owner has failed for 30 days to pay Contractor any sum finally determined to be due, Contractor may, seven days after written notice to Owner and Engineer, stop the Work until payment is made of all such amounts due Contractor, including interest thereon. The provisions of this paragraph are not intended to preclude Contractor from submitting a Change Proposal for an adjustment in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to Contractor's stopping the Work as permitted by this paragraph.

17.01 Methods and Procedures

A. Disputes Subject to Final Resolution: The following disputed matters are subject to final resolution under the provisions of this Article:

1. A timely appeal of an approval in part and denial in part of a Claim, or of a denial in full; and
2. Disputes between Owner and Contractor concerning the Work or obligations under the Contract Documents, and arising after final payment has been made.

B. Final Resolution of Disputes: For any dispute subject to resolution under this Article, Owner or Contractor may:

1. elect in writing to invoke the dispute resolution process provided for in the Supplementary Conditions; or
2. agree with the other party to submit the dispute to another dispute resolution process; or
3. if no dispute resolution process is provided for in the Supplementary Conditions or mutually agreed to, give written notice to the other party of the intent to submit the dispute to a court of competent jurisdiction.

ARTICLE 18 – MISCELLANEOUS

18.01 Giving Notice

A. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if:

1. delivered in person, by a commercial courier service or otherwise, to the individual or to a member of the firm or to an officer of the corporation for which it is intended; or
2. delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the sender of the notice.

18.02 Computation of Times

A. When any period of time is referred to in the Contract by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

18.03 Cumulative Remedies

A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee, or by other provisions of the Contract. The provisions of this paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.
18.04 Limitation of Damages
   A. With respect to any and all Change Proposals, Claims, disputes subject to final resolution, and other matters at issue, neither Owner nor Engineer, nor any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, shall be liable to Contractor for any claims, costs, losses, or damages sustained by Contractor on or in connection with any other project or anticipated project.

18.05 No Waiver
   A. A party’s non-enforcement of any provision shall not constitute a waiver of that provision, nor shall it affect the enforceability of that provision or of the remainder of this Contract.

18.06 Survival of Obligations
   A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract, as well as all continuing obligations indicated in the Contract, will survive final payment, completion, and acceptance of the Work or termination or completion of the Contract or termination of the services of Contractor.

18.07 Controlling Law
   A. This Contract is to be governed by the law of the state in which the Project is located.

18.08 Headings
   A. Article and paragraph headings are inserted for convenience only and do not constitute parts of these General Conditions.

*
SUPPLEMENTARY CONDITIONS

These Supplementary Conditions amend or supplement the Standard General Conditions of the Construction Contract as indicated below. All provisions that are not so amended or supplemented remain in full force and effect.

The terms used in these Supplementary Conditions have the meanings stated in the General Conditions. Additional terms used in these Supplementary Conditions have the meanings stated below, which are applicable to both the singular and plural thereof. The address system used in these Supplementary Conditions is the same as the address system used in the General Conditions, with the prefix “SC” added thereto.

SC-1.01 Paragraph 1.01.A.10 is deleted and is replaced with the following:

1.01.A.10. Claim—A demand or assertion by Contractor directly to Owner, duly submitted in compliance with the procedural requirements set forth herein, (i) seeking a change in compensation to be paid under the Contract, an adjustment to Contract Time or Milestones, or other change to the Contract terms; (ii) contesting Engineer’s recommendation or Owner’s decision regarding a Change Proposal; or (iii) seeking resolution of a contractual issue that Engineer or Owner has declined to address. A demand for money or services by a third party is not a Claim.

SC-1.01. Renumber Paragraph 1.01.A.38 to 1.01.A.38.a, and add the following new paragraph:

1.01.A.38.b. Specialist—The term Specialist refers to a person, partnership, firm, or corporation of established reputation (or if newly organized, whose personnel have previously established a reputation in the same field), which is regularly engaged in, and which maintains a regular force of workers skilled in either (as applicable) manufacturing or fabricating items required by the Contract Documents, or otherwise performing Work required by the Contract Documents. Where the Specifications require the installation by a Specialist, that term shall also be deemed to mean either the manufacturer of the item, a person, partnership, firm, or corporation licensed by the manufacturer, or a person, partnership, firm, or corporation who will perform the Work under the manufacturer’s direct supervision.

SC-1.01. Add the following language at the end of Paragraph 1.01.A.40:

Substantial Completion is further defined as (i) that degree of completion of the Project’s operating facilities or systems sufficient to provide Owner the full time, uninterrupted, and continuous beneficial operation of the Work; and (ii) required functional, performance and acceptance, or startup testing has been successfully
demonstrated for components, devices, equipment, and instrumentation and control to
the satisfaction of Engineer in accordance with the requirements of the Specifications.

SC-2.01 Delete Paragraph 2.01.B. and Paragraph 2.01.C. in their entirety and insert the
following in their place:

2.01.B. Evidence of Contractor’s Insurance: When Contractor delivers the executed
counterparts of the Agreement to Owner, Contractor shall also deliver to Owner
copies of the policies of insurance (including all endorsements, and identification of
applicable self-insured retentions and deductibles) required to be provided by
Contractor in Article 6. Contractor may block out (redact) any confidential premium
or pricing information contained in any policy or endorsement furnished under this
provision.

2.01.C. Evidence of Owner’s Insurance: After receipt from Contractor of the executed
counterparts of the Agreement and all required bonds and insurance documentation,
Owner shall promptly deliver to Contractor copies of the policies of insurance to be
provided by Owner under Article 6 (if any). Owner may block out (redact) any
confidential premium or pricing information contained in any policy or endorsement
furnished under this provision.

SC-2.02. Delete Paragraph 2.02.A. in its entirety and insert the following new paragraph in
its place:

2.02.A. Owner shall furnish to Contractor five
copies of conformed Contract
Documents incorporating and integrating all Addenda and any amendments
negotiated prior to the Effective Date of the Contract (including one fully executed
counterpart of the Agreement) and one copy in electronic portable document format
(PDF). Additional printed copies of the conformed Contract Documents will be
furnished upon request at the cost of reproduction.

SC-2.05. Progress Schedule. Add the following language at the end of Paragraph 2.05.A.1:

Contractor’s Progress Schedule, as initially submitted and in subsequent
modifications and updates, shall also account for and coordinate with other
concurrent construction projects listed in the Specifications, and normal terminal
operations.

SC-3.01. Add the following new paragraphs immediately after Paragraph 3.01.E:

3.01.F. Sections of Division 01, General Requirements, govern the execution of the
Work of all sections of the Specifications.

3.01.G. Anything called for by one of the Contract Documents and not called for by
the others shall be of like effect as if required or called for by all, except that a
provision clearly designed to negate or alter a provision contained in one or more of the other Contract Documents shall have the intended effect. In the event of conflicts among the Contract Documents, the Contract Documents shall take precedence in the following order: the Contract between VPA and Contractor; the Supplementary Conditions; the General Conditions; Special Conditions; the Specifications with attachments; and the plans.

SC-3.04.B Paragraph 3.04.B will be deleted and the following provision will be substituted:

3.04.B. Engineer will, with reasonable promptness, render a written clarification, interpretation, or decision on the issue submitted, or initiate an amendment or supplement to the Contract Documents. Engineer’s written clarification, interpretation, or decision will be final and binding on Contractor, unless it appeals by submitting a Change Proposal.

SC-4.01. Delete the third sentence of Paragraph 4.01.A in its entirety.

SC-4.05. Add the following language at the end of Paragraph 4.05.A:

As detailed in the Project Specifications, the Contract Work will be performed concurrently with three other construction projects at the VIG terminal. In addition, normal terminal operations must continue during Contractor’s performance of the Work. Contractor will coordinate its work with other contractors and with terminal operations, and, notwithstanding any other provision in this Contract, Contractor shall not be entitled to an extension of Contract Time or additional compensation for delays due to interference by other construction work or terminal operations that could have been foreseen and/or avoided with the exercise of such best efforts by Contractor.

SC-4.05. Delete Paragraph 4.05 G. in its entirety and insert the following new paragraph in its place:

G. Contractor must submit Change Proposal seeking an adjustment in Contract Price or Contract Times under this paragraph within 5 days of commencement of the delaying, disrupting, or interfering event.

SC-4.06. Following Paragraph 4.05.G, insert the following new Paragraph 4.06.

4.06. Liquidated Damages for Delayed Substantial Completion.

A. Liquidated Damages—Liquidated Damages, representing the cost of administration, engineering, supervision, inspection and other expenses, will be charged against the Contractor for each calendar day that any work remains incomplete after the Contract time limit specified for the Substantial Completion of the Work. For each calendar day on which the Work remains
incomplete following the Substantial Completion date specified in, or determined in accordance with, the Contract documents, Owner may assess as liquidated damages and not as a penalty, the sum of $1,000 per calendar day for the In-Gate Expansion Work, and $3,000 per calendar day for Rail Portal Work. The Contractor waives any defense as to the validity of any liquidated damages stated herein and assessed by the Owner against the Contractor on the grounds that such liquidated damages are void as a penalties or are not reasonably related to actual damages.

SC-5.01. Delete paragraph 5.01.B in its entirety, and renumber paragraph 5.01.C as 5.01.B.

SC-5.02. Add the following language to the end of Paragraph 5.02.A.1:

Contractor shall not enter upon nor use property not under Owner control until appropriate easements have been executed and a copy is on file at the Site.

SC-5.03 Add the following new paragraphs immediately after Paragraph 5.03.B.3:

5.03.C. The following reports of explorations and tests of subsurface conditions at or adjacent to the Site are known to Owner:

5.03.C.1. Report dated July 5, 2016 prepared by GET Solutions, Inc. 204 Grayson Road, Virginia Beach, Virginia 23462, entitled “Report of Geotechnical Engineering Services” consisting of 18 pages.

5.03.D. The following drawings of physical conditions relating to existing surface or subsurface structures at or adjacent to the Site (except underground facilities) are known to Owner:

5.03.D.1. Drawings dated February 18, 2016 prepared by Waterway Surveys & Engineering, Ltd. 321 Cleveland Place, Virginia Beach, Virginia 23462, entitled “Phase II Build Out Topographic Survey, Virginia International Gateway” consisting of 3 sheets numbered C-01 to C-03, inclusive.

5.03.D.1.a. All of the information in such drawings constitutes technical data on whose accuracy Contractor may rely.

5.03.E. Contractor may request copies of reports and drawings identified in SC-5.03.C and SC-5.03.D that were not included with the Bidding Documents.

SC-5.04. Delete Paragraph 5.04.D.4 in its entirety and insert the following new paragraph in its place:

4. Contractor may submit a Change Proposal regarding its entitlement to the amount or extent of any adjustment in the Contract Price or Contract Times, or both, no later
than 5 days after Owner’s issuance of the Owner’s written statement to Contractor regarding the subsurface or physical condition in question.

SC-5.06. Delete Paragraph 5.06.A and Paragraph 5.06.B in their entirety and insert the following in their place:

A. No reports or drawings related to Hazardous Environmental Conditions are known to Owner.

SC-6.02. Replace Paragraph 6.02.A with the following:

6.02.A. Owner and Contractor shall obtain and maintain insurance as required in this Article, the Supplementary Conditions, and as set forth within the Owner Controlled Insurance Program (“OCIP”) document, attached hereto as Exhibit A and incorporated into this Agreement by reference.

Add the following new paragraph immediately after Paragraph 6.02.A:

6.02.A.1. Surety and insurance companies from which the bonds and insurance for this Project are purchased shall have an A.M. Best’s rating of no less than A- and size rating of XI or larger, and shall be licensed to issue surety bonds in the Commonwealth of Virginia, in addition to other requirements specified herein.

SC-6.03. Replace Paragraphs 6.03.A through 6.03.G with the following:

A. Workers’ Compensation: Contractor shall purchase and maintain workers’ compensation and employer’s liability insurance for:

1. claims under workers’ compensation disability benefits, and other similar employee benefit acts;

2. United States Longshoreman and Harbor Workers’ Compensation Act;

3. Jones Act coverage (if applicable);

4. claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor’s employees; and

5. foreign voluntary worker compensation (if applicable).

B. Commercial General Liability—Claims Covered: See Exhibit A.

C. Commercial General Liability—Form and Content: See Exhibit A.
D. Automobile Liability—Contractor shall purchase and maintain automobile liability insurance with liability limits not less than $5,000,000 per occurrence combined single limit.

E. Umbrella or Excess Liability—See Exhibit A.

F. Contractor’s Pollution Liability Insurance—See Exhibit A.

G. Additional Insureds—The Contractor’s automobile liability policy and any other applicable policies maintained by Contractor shall include and list as additional insureds Owner and Engineer, and any individuals or entities identified in the Supplementary Conditions; include coverage for the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of all such additional insureds; and the insurance afforded to these additional insureds shall provide primary coverage for all claims covered thereby (including as applicable those arising from both ongoing and completed operations) on a non-contributory basis. Contractor shall obtain all necessary endorsements to support these requirements.

6.03.G.1. Include the following parties or entities as additional insured:

6.03.G.1.a. The Commonwealth of Virginia, Richmond, Virginia.

6.03.G.1.b. Virginia Port Authority; 600 World Trade Center, Norfolk, Virginia 23510.

6.03.G.1.c. Virginia International Terminals, LLC, 601 World Trade Center, Norfolk, VA 23510.


6.03.G.1.e. CH2M HILL, 5701 Cleveland Street, Suite 200, Virginia Beach, Virginia 23462.

SC-6.03. Add the following at the end of Paragraph 6.03.H:

To the extent Contractor will provide Architectural or Engineering services, Contractor shall purchase and maintain professional liability insurance with liability limits not less than $5,000,000 on a claims-made basis and annual aggregate. The insurance shall be maintained during the Contractor’s performance of the Work, and maintain for a period of time of 5 years following the completion of the work. In no event shall the deductible or self-insured retention on this policy exceed $250,000 without prior written consent of Owner.
SC-6.04. Replace Paragraph 6.04.A with the following:

A. In addition to the insurance required to be provided by Contractor under Paragraph 6.03, Owner, at Owner’s option, will purchase and maintain at Owner’s expense Owner Controlled Insurance Program (OCIP) as will protect Owner against claims that may arise from operations under the Contract Documents. See Exhibit A.

SC-6.05. Replace Paragraph 6.05 with the following:

6.05. Property Insurance:

A. Owner’s Builder’s Risk Policy and Deductibles—The Owner will obtain and maintain a builder’s risk all-risk property policy. Contractor shall reimburse Owner for deductible under this policy. See Exhibit A.

B. Notice of Cancellation or Change—All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained in accordance with this Paragraph 6.05 will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least 10 days prior written notice has been given to the purchasing policyholder. Within three days of receipt of any such written notice, the purchasing policyholder shall provide a copy of the notice to each other insured.

C. Additional Insurance—If Contractor elects to obtain other special insurance to be included in or supplement the builder’s risk or property insurance policies provided under this Paragraph 6.05, it may do so at Contractor’s expense.

D. Insurance of Other Property—If the express insurance provisions of the Contract do not require or address the insurance of a property item or interest, such as tools, construction equipment, or other personal property owned by Contractor, a Subcontractor, or an employee of Contractor or a Subcontractor, then the entity or individual owning such property item will be responsible for deciding whether to insure it, and if so in what amount.

SC-7.02. Add the following language to the end of Paragraph 7.02.B:

7.02.B.1. Contractor and Subcontractor regular working hours consist of up to 10 working hours within an 11-hour period on a regularly scheduled basis, excluding Sundays and holidays. Overtime work is work in excess of 40 hours per week.
7.02.B.2. Owner’s legal holidays are New Year’s Day (1st day of January); Lee-Jackson Day (Friday preceding the 3rd Monday in January); Martin Luther King, Jr. Day (3rd Monday in January); President’s Day (3rd Monday in February); Memorial Day (last Monday in May); Independence Day (4th day of July); Labor Day (1st Monday in September); Columbus Day (2nd Monday in October); Veteran’s Day (11th day of November); Day before Thanksgiving (4th Wednesday of November); Thanksgiving (4th Thursday of November); Day after Thanksgiving (Friday after Thanksgiving); Christmas Eve, beginning at 1:00 p.m. (24th day of December); and Christmas Day (25th day of December).

SC-7.02. Add the following new paragraph immediately after Paragraph 7.02.B:

7.02.C. Owner shall be responsible for the cost of any overtime pay or other expense incurred by the Owner for Engineer’s services (including those of the Resident Project Representative, if any), Owner’s representative, and construction observation services, occasioned by the performance of Work on Saturday, Sunday, any legal holiday, or as overtime on any regular work day. If Contractor is responsible but does not pay, or if the parties are unable to agree as to the amount owed, then Owner may impose a reasonable set-off against payments due under Article 15.


Contractor must submit Change Proposal seeking an adjustment in Contract Price or Contract Times under this paragraph within 5 days of commencement of the delaying, disrupting, or interfering event.

SC-7.10. In Paragraph 7.10.C, the last sentence shall be deleted, and the following shall be substituted:

If Owner and Contractor are unable to agree on entitlement to, or on the amount or extent, if any, of any adjustment in Contract Price, Contract Time, or Milestones resulting from such changes, then within 10 days of such notice Contractor may submit a Change Proposal.

SC-7.10. Add the following new paragraph(s) immediately after Paragraph 7.10.C:

7.10.D. While not intended to be inclusive of all Laws or Regulations for which Contractor may be responsible under Paragraph 7.10, the following Laws or Regulations are included as mandated by statute or for the convenience of Contractor:

7.10.D.1. Discrimination: Contractor agrees as follows:

7.10.D.1.a. Contractor shall not discriminate against any employee or applicant for employment because of race, religion, color, sex, national origin, age, disability, or other basis prohibited by state law relating to
discrimination in employment, except where there is a bona fide occupational qualification reasonably necessary to normal operation of Contractor. Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth provisions of this nondiscrimination clause.

7.10.D.1.b. Contractor, in solicitations or advertisements for employees placed by or on behalf of Contractor, shall state that Contractor is an equal opportunity employer.

7.10.D.1.c. Notices, advertisements and solicitations placed in accordance with federal law, rule or regulation shall be deemed sufficient for purpose of meeting requirements of this section.

7.10.D.1.d. Contractor shall include provisions of above paragraphs in every subcontract or purchase order over $10,000, so provisions will be binding upon each Subcontractor or Supplier.

7.10.D.2. Drug-Free Workplace Program: In accordance with Code of Virginia 2.2-4312, during performance of this Contract, Contractor agrees to (i) provide a drug-free workplace for Contractor’s employees; (ii) post in conspicuous places, available to employees and applicants for employment, a statement notifying employees that unlawful manufacture, sale, distribution, dispensation, possession, or use of a controlled substance or marijuana is prohibited in Contractor’s workplace and specifying actions that shall be taken against employees for violations of such prohibition; (iii) state in solicitations or advertisements for employees placed by or on behalf of Contractor that Contractor maintains a drug-free workplace; and (iv) include provisions of the foregoing clauses in every subcontract or purchase order of over $10,000, so provisions shall be binding upon each Subcontractor or Supplier.

SC-7.17. Delete Paragraph 7.17.A, and substitute the following language:

A. The benefits of, and any right of action to enforce, Contractor’s warranties and guarantees shall inure equally to the following Warranty Beneficiaries: (i) the Commonwealth of Virginia, (ii) The Virginia Port Authority, (iii) Virginia International Terminals, LLC, and (iv) Virginia International Gateway, Inc. Contractor warrants and guarantees to: the Warranty Beneficiaries that all Work will be in accordance with the Contract Documents and will not be defective. Engineer and its officers, directors, members, partners, employees, agents, consultants, and subcontractors shall be entitled to rely on Contractor’s warranty and guarantee.

SC-7.17. Add the following new language at the end of Paragraph 7.17.C:

9. Any partial or final payment by Owner under the Contract.
SC-7.18. Indemnification. Paragraphs 7.18.A and B are deleted, and shall be replaced by the following provisions:

A. As used in this Paragraph 7.18, the term “Owner Indemnitees” shall mean the following: The Commonwealth of Virginia, the Virginia Port Authority, Virginia International Terminals LLC, and Virginia International Gateway, Inc. To the fullest extent permitted by Laws and Regulations, and in addition to any other obligations of Contractor under the Contract or otherwise, Contractor shall indemnify and hold harmless the Owner Indemnitees and Engineer, and the officers, directors, managers, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all liability, claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) (collectively “Liabilities”) arising out of or relating to the performance of the Work, but only to the extent caused by:

(1) breach of this Contract by, (2) violation of any Law or Regulation by, or (3) any negligent act or omission of, Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work or anyone for whose acts any of them may be liable. Contractor’s obligations hereunder to Owner Indemnitees shall not apply to the extent that any Liability is due to the negligence, breach of contract, or other fault, of an Owner Indemnitee. Contractor’s obligations hereunder to Engineer shall not apply to the extent that any Liability is due to the negligence, breach of contract, or other fault of the Engineer.

B. In any and all claims against an Owner Indemnitee or Engineer or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 7.18.A shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such Subcontractor, Supplier, or other individual or entity under workers’ compensation acts, disability benefit acts, or other employee benefit acts.

SC-8.02. Add the following new paragraph immediately following Paragraph 8.02.B:

8.02.C. Other work anticipated to be performed at the Site by others that is either directly or indirectly related to the scheduled performance of the Work under these Contract Documents is described in Section 01 31 13, Project Coordination.
SC-8.03. In Paragraph 8.03.A, delete the reference to “30 days” and substitute “5 days”.

SC-8.03. Add the following provision at the end of Paragraph 8.03.A:

As detailed in the Project Specifications, the Contract Work will be performed concurrently with three other construction projects at the VIG terminal. In addition, normal terminal operations must continue during Contractor’s performance of the Work. Contractor will coordinate its work with other contractors and with terminal operations, and, notwithstanding any other provision herein, Contractor shall not be entitled to an extension of Contract Time or additional compensation for delays due to interference by other construction work or terminal operations that could have been foreseen and/or avoided with the exercise of such best efforts.

SC-8.04. Add the following new paragraph immediately after Paragraph 8.03.D:

SC-8.04. Claims Between Contractors

8.04.A. Should Contractor cause damage to the work or property of any other contractor at the Site, or should any claim arising out of Contractor’s performance of the Work at the Site be made by any other contractor against Contractor, Owner, Engineer, or the Construction Coordinator, if applicable, Contractor shall (without involving Owner, Engineer, or Construction Coordinator) either i) remedy the damage; ii) agree to compensate the other contractor for remedy of the damages; or iii) remedy the damages and attempt to settle with such other contractor by agreement, or to otherwise resolve the dispute by arbitration or at law.

8.04.B. Contractor shall, to the fullest extent permitted by Laws and Regulations, indemnify and hold harmless Owner, Engineer, the Construction Coordinator (if applicable) and the officers, directors, members, partners, employees, agents, and other consultants and subcontractors of each and any of them from and against all Claims, costs, losses and damages (including, but not limited to, fees and charges of engineers, architects, attorneys, and other professionals and court and arbitration costs) arising directly, indirectly or consequentially out of any action, legal or equitable, brought by any other contractor against Owner, Engineer, their officers, directors, members, partners, employees, agents, and other consultants and subcontractors, or the Construction Coordinator (if applicable) to the extent said Claim is based on or arises out of Contractor’s performance of the Work. Should another contractor cause damage to the Work or property of Contractor or should the performance of work by any other contractor at the Site give rise to any other Claim, Contractor shall not institute any action, legal or equitable, against Owner, Engineer, or the Construction Coordinator (if applicable) or permit any action against any of them to be maintained and continued in its name or for its benefit in any court or before any arbiter which seeks to impose liability on or to recover damages from Owner, Engineer, or the Construction Coordinator (if applicable) on account of any such damage or Claim.
8.04.C. Subject to the provisions of Paragraphs 4.05.A and 8.03.A, if Contractor is delayed at any time in performing or furnishing the Work by any act or neglect of another contractor, and Owner and Contractor are unable to agree as to the extent of any adjustment in Contract Times attributable thereto, Contractor may make a Claim for an extension of times in accordance with Article 11. An extension of the Contract Times shall be Contractor’s exclusive remedy with respect to Owner, Engineer, and Construction Coordinator (if applicable) for any delay, disruption, interference, or hindrance caused by any other contractor. This paragraph does not prevent recovery from Owner, Engineer, or Construction Coordinator (if applicable) for activities that are their respective responsibilities.

SC-9.13. Add the following new paragraph(s) immediately following Paragraph 9.12.B:

9.13. **Owner as Resident Project Representative**

9.13.A. Owner will furnish Project representation during the construction period. The duties, responsibilities, and limitations of authority specified for Engineer in Article 10, Engineer’s Status During Construction, and elsewhere in the Contract Documents will be those of Owner.

9.13.A. In addition to the Resident Project Representative furnished by Engineer, Owner will furnish an Owner’s Site representative to assist Engineer. The responsibilities, authorities, and limitations of authority of Owner’s Site representative will be as specified for Engineer’s Resident Project Representative.

SC-10.03. Add the following new paragraphs immediately after Paragraph 10.03.A:

10.03.B. Resident Project Representative (RPR) will be furnished by Owner. The responsibilities, authority, and limitations of the RPR are limited to those of Engineer in accordance with Paragraph 10.08 and as set forth elsewhere in the Contract Documents and are further limited and described below.

10.03.C. Responsibilities and Authority:

10.03.C.1. Schedules: Review and monitor Progress Schedule, Schedule of Submittals, and Schedule of Values prepared by Contractor and consult with Engineer concerning acceptability.

10.03.C.2. Conferences and Meetings: Conduct or attend meetings with Contractor, such as preconstruction conferences, progress meetings, Work conferences and other Project related meetings.

10.03.C.3. Liaison: (i) Serve as Engineer’s liaison with Contractor, working principally through Contractor’s authorized representative, and assist in
understanding the intent of the Contract Documents; (ii) assist Engineer in
serving as Owner’s liaison with Contractor when Contractor’s operations
affect Owner’s onsite operations; (iii) assist in obtaining from Owner
additional details or information when required for proper execution of the
Work.

10.03.C.4. Interpretation of Contract Documents: Inform Engineer when
clarifications and interpretations of the Contract Documents are needed and
transmit to Contractor clarifications and interpretations as issued by Engineer.

10.03.C.5. Submittals: Receive submittals that are furnished at the Site by
Contractor, and notify Engineer of availability for examination. Advise
Engineer and Contractor of the commencement of any Work or arrival of
materials and equipment at Site, when recognized, requiring a Shop Drawing
or Sample if the submittal has not been approved by Engineer.

10.03.C.6. Modifications: Consider and evaluate Contractor’s suggestions for
modifications in Drawings or Specifications and provide recommendations to
Engineer; transmit to Contractor, in writing decisions as issued by Engineer.

10.03.C.7. Review of Work and Rejection of Defective Work: (i) Conduct
onsite observations of the Work in progress to assist Engineer in determining
if the Work is, in general, proceeding in accordance with the Contract
Documents; (ii) inform Engineer and Contractor whenever RPR believes that
any Work is defective; (iii) advise Engineer whenever RPR believes that any
Work will not produce a completed Project that conforms generally to the
Contract Documents or will imperil the integrity of the design concept of the
completed Project as a functioning whole as indicated in the Contract
Documents, or has been damaged or does not meet the requirements of any
inspection test, or approval required to be made; and advise Engineer of that
part of the Work in progress that RPR believes should be corrected or rejected
or uncovered for observation, or requires special testing, inspection, or
approval.

10.03.C.8. Inspections, Tests, and System Startups: (i) Verify tests, equipment
and systems startups and operating and maintenance training are conducted in
the presence of appropriate personnel, and that Contractor maintains adequate
records thereof; (ii) observe, record, and report to Engineer appropriate details
relative to the test procedures and system startups; and (iii) accompany
visiting inspectors representing public or other agencies having jurisdiction
over the Project, record the results of these inspections, and report to
Engineer.

10.03.C.9. Records: (i) Maintain records for use in preparing Project
documentation; (ii) keep a diary or log book recording pertinent Site
conditions, activities, decisions and events; (iii) record names, addresses, fax numbers, e-mail addresses, web site locations, and telephone numbers of Contractors, Subcontractors, and major Suppliers of materials and equipment.

10.03.C.10. Reports: (i) Furnish Engineer periodic reports of progress of the Work and of Contractor’s compliance with the Progress Schedule and Schedule of Submittals; (ii) immediately notify Engineer of the occurrence of Site accidents, emergencies, acts of God endangering the Work, damage to property by fire or other causes, or the discovery of any Hazardous Environmental Condition; and (iii) assist Engineer in drafting proposed Change Orders, Work Change Directives, and Field Orders; obtain backup material from Contractor as appropriate.

10.03.C.11. Payment Requests: Review Applications for Payment with Contractor for compliance with the established procedure for their submission and forward with recommendations to Engineer, noting particularly the relationship of the payment requested to the Schedule of Values, Work completed, and materials and equipment delivered at the Site but not incorporated in the Work.

10.03.C.12. Certificates, Operation and Maintenance Manuals: During the course of the Work, verify materials and equipment certificates and operation and maintenance manuals and other data required by Specifications to be assembled and furnished by Contractor are applicable to the items actually installed and in accordance with the Contract Documents, and have these documents been delivered to Engineer for review and forwarding to Owner prior to payment for that part of the Work.

10.03.C.13. Completion: (i) Participate in a Substantial Completion inspection; assist in determination of Substantial Completion and the preparation of lists of items to be completed or corrected; (ii) Participate in a final inspection in the company of Engineer, Owner, and Contractor and prepare a final list of items to be completed and deficiencies to be remedied; and (iii) observe whether items on final list have been completed or corrected, and make recommendations to Engineer concerning acceptance.

10.03.D. Limitations of Authority: Resident Project Representative will not:

10.03.D.1. have authority to authorize a deviation from Contract Documents or substitution of materials or equipment, unless authorized by Engineer; or

10.03.D.2. exceed the limitations of Engineer’s authority as set forth in Contract Documents; or
10.03.D.3. undertake any of the responsibilities of Contractor, Subcontractors, Suppliers, or Contractor’s authorized representative; or

10.03.D.4. advise on, issue directions relative to, or assume control over an aspect of the means, methods, techniques, sequences, or procedures of Contractor’s work unless such advice or directions are specifically required by the Contract Documents; or

10.03.D.5. advise on, issue directions regarding, or assume control over safety practices, precautions, and programs in connection with the activities or operations of Owner or Contractor; or

10.03.D.6. participate in specialized field or laboratory tests or inspections conducted offsite by others, except as specifically authorized by Engineer; or

10.03.D.7. accept Shop Drawings or Samples from anyone other than Contractor; or

10.03.D.8. authorize Owner to occupy the Project in whole or in part.

SC-10.07. Delete Paragraph 10.07.A and substitute the following provision:

A. Engineer will render advisory decisions regarding the requirements of the Contract Documents, and judge the acceptability of the Work, pursuant to the specific procedures set forth herein for initial interpretations, Change Proposals, and acceptance of the Work. In rendering such decisions and judgments, Engineer will not show partiality to Owner or Contractor, and will not be liable to Owner, Contractor, or others in connection with any proceedings, interpretations, decisions, or judgments conducted or rendered in good faith. However, the Engineer’s interpretation of the Contract Documents shall not be binding on the Owner, and shall not be the sole basis for a Claim for additional compensation, additional Contract Time, or other relief.

SC-10.08. Add the following new paragraph immediately after Paragraph 10.08.E:

10.08.F. Contractors, Subcontractors, Suppliers, and others on the Project, or their sureties, shall maintain no direct action against Engineer, its officers, employees, affiliated corporations, and subcontractors, for any Claim arising out of, in connection with, or resulting from the engineering services performed. Only the Owner will be the beneficiary of any undertaking by Engineer.

SC-11.01. In Paragraph 11.01.A.2, delete the reference to “30 days” and substitute “5 days”.

SC-11.01 Paragraph 11.01.A.2 is amended by deleting the last sentence.
SC-11.04. Add the following new paragraph immediately after Paragraph 11.04.C.2.f:

11.04.D. In the event Contractor submits request for additional compensation as a result of a change or differing Site conditions, or as a result of delays, acceleration, or loss of productivity, Owner reserves right, upon written request, to audit and inspect Contractor’s books and records relating to the Project. Upon written request for an audit, Contractor shall make its books and records available within 14 days of request. Owner shall specifically designate identity of auditor. As part of audit, Contractor shall make available its books and records relating to the Project, including but not limited to Bidding Documents, cost reports, payroll records, material invoices, subcontracts, purchase orders, daily timesheets, and daily diaries. Audit shall be limited to those cost items which are sought by Contractor in a change order or claim submission to Owner.

SC-11.06. In Paragraph 11.06.A.1, delete the reference to “thirty (30) days” and substitute “five (5) days”; and delete the reference to “fifteen (15) days”, and substitute “five (5) days or such other time as agreed between Contractor and Owner, …”.

SC-11.06. Delete Paragraphs 11.06.A.2, and A.3, and substitute therefore the following provision:

2. **Engineer’s Action**: Engineer will review each Change Proposal and, within fifteen (15) days after receipt of the Contractor’s supporting data, shall make a recommendation to Owner to either deny the Change Proposal in whole, approve it in whole, or deny it in part and approve it in part. The Engineer’s recommendation shall not be binding on the Owner. Such recommendations shall be in writing, with a copy provided to Owner and Contractor. Within five (5) days after receipt of Engineer’s recommendation, the Owner shall take a final action on the Change Proposal. Contractor shall proceed with performance of the Contract in accordance with the Owner’s decision on the Change Proposal, subject to Contractor’s rights to file a Claim or initiate dispute resolution in accordance with this Contract.

SC-11.07. Delete Paragraph 11.07.B.

SC-12.01. Paragraph 12.01 shall be deleted in its entirety, and replaced with the following provision:

12.01. **Claims**

   A. **Claims Process**

      1. **Notice of Intent to File a Claim**: Early or prior knowledge by the Owner of an existing or impending claim for damages could alter the plans,
scheduling, or other Owner action or result in mitigation or elimination of the basis for the claim. Therefore, the Contractor shall submit a written statement describing the act of omission or commission by the Engineer, Owner or their agents, that allegedly caused damage to the Contractor and the nature of the claimed damage to the Engineer at the time of each and every occurrence that the Contractor believes to be the basis of a claim or prior to the beginning of the work upon which a claim and any subsequent action will be based. “Occurrence” includes but is not limited to the Owner or Engineer’s denial of the Contractor’s timely request for time extension, additional compensation, change order, adjustment, or other request under the Contract, or any other decision, instruction, directive, or order that the Contractor believes will result in a claim. The written statement shall clearly state that it is a “Notice of Intent to File a Claim” and shall be so titled. If such damage is deemed certain in the opinion of the Contractor to result from his acting on an order from the Engineer or Owner, he shall immediately take written exception to the order. Submission of a notice of intent to file a claim as specified shall be mandatory. Failure to submit such a timely written Notice of Intent to File a Claim shall be a conclusive waiver to such claim for damages by the Contractor. An oral notice or statement will not be sufficient nor will a notice or statement after the event. Oral statements recorded in meeting minutes also will not be sufficient.

2. In addition, at the time of each and every occurrence that the Contractor believes to be the basis of a claim or prior to beginning the work upon which a claim and any subsequent action will be based, the Contractor shall furnish the Engineer an itemized list of materials, equipment, and labor for which additional compensation will be claimed. The Contractor shall afford the Engineer every facility for keeping an actual cost record of the work. The Contractor and the Engineer shall compare records and bring them into agreement at the end of each day. Failure on the part of the Contractor to afford the Engineer proper facilities for keeping a record of actual costs will constitute a waiver of a claim for such extra compensation except to the extent that it is substantiated by the Owner’s records. The filing of such Notice of Intent by the Contractor and the keeping of cost records by the Engineer shall in no way establish the validity of a claim.

3. Claims shall be processed and resolved in accordance with the procedures in Section 17, Dispute Resolution.
SC-13.01. Delete Paragraph 13.01.B.5.c in its entirety and insert the following in its place:

13.01.B.5.c. Construction Equipment and Machinery:

13.01.B.5.c.1) Rentals of construction equipment and machinery, and the parts thereof in accordance with rental agreements approved by Owner with the advice of Engineer, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. Such costs shall be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.

13.01.B.5.c.2) Costs for equipment and machinery owned by Contractor will be paid at a rate shown for such equipment in the Rental Rate Blue Book published by Equipment Watch. An hourly rate will be computed by dividing the monthly rates by 176. These computed rates will include all operating costs. Costs will include the time the equipment or machinery is in use on the changed Work and the costs of transportation, loading, unloading, assembly, dismantling, and removal when directly attributable to the changed Work. The cost of such equipment or machinery, or parts thereof, shall cease to accrue when the use thereof is no longer necessary for the changed Work. Equipment or machinery with a value of less than $1,000 will be considered small tools.

SC-13.01. Add the following language to the end of Paragraph 13.01.B.5.h:

Express and courier services must be approved prior to use.

SC-13.03. Paragraph 13.03.E is amended by deleting the following language from the first paragraph “….or Owner may file a claim…”.

SC-14.02. Add the following language at the end of Paragraph 14.02.D:

Tests required by Contract Documents to be performed by Contractor that require test certificates be submitted to Owner or Engineer for acceptance shall be made by an independent testing laboratory or agency licensed or certified in accordance with Laws and Regulations and applicable state and local statutes. In the event state license or certification is not required, testing laboratories or agencies shall meet the following applicable requirements:

14.02.D.7. Calibrate testing equipment at reasonable intervals by devices of accuracy, traceable to the National Institute of Standards and Technology or accepted values of natural physical constants.

SC-15.01. Delete Paragraph 15.01.B.2, and substitute the following in its place:

2. Each Application for a Progress Payment shall be accompanied by an Partial Release and Waiver of Lien form, included as Exhibit B supplement to this section. Contractor’s application for Final Payment and release of retainage shall be accompanied by the Full and Final Release and Waiver of Lien form, included as Exhibit C supplement to this section. Both Interim and Final Lien Waiver forms shall be signed by an officer or other authorized representative of Contractor with authority to bind Contacto to such waivers and releases. Contractor shall require that all subcontractors sign lien waiver and releases in similar forms upon payment of their portion of Progress Payments.

SC-15.01. Delete Paragraph 15.01.D.1 in its entirety and insert the following in its place:

15.01.D.1. Thirty days after presentation of the Application for Payment to Owner with Engineer’s recommendation, the amount recommended will (subject to the provisions of Paragraph 15.01.E.) become due and when due will be paid by Owner to Contractor.

SC-15.01. Add the following new paragraph immediately after Paragraph 15.01.D.1:

15.01.D.2. Individual Contractor shall provide social security number and proprietorships, partnerships, and corporation shall provide federal employer identification number.

SC-15.01. Add the following new paragraphs immediately after Paragraph 15.01.E.3:

15.01.F. Subcontractor Payments: In accordance with Code of Virginia 2.2-4354:

15.01.F.1. Contractor shall take one of the two following actions within 7 days after receipt of amounts paid to Contractor for the Work performed by Subcontractor.

15.01.F.1.a. Pay Subcontractor for proportionate share of total payment received from Owner attributable to Work performed by Subcontractor; or
15.01.F.1.b. Notify Owner and Subcontractor, in writing, of intention to withhold all or part of Subcontractor’s payment with reason for nonpayment.

15.01.F.2. Contractor shall pay interest to Subcontractor on all amounts owed by Contractor that remain unpaid after 7 days following receipt by Contractor of payment from Owner for Work performed by Subcontractor, except for amounts withheld as allowed above.

15.01.F.3. Unless otherwise provided under the terms of this Contract, interest shall accrue at rate of one percent per month.

15.01.F.4. Contractor shall include in subcontracts awarded a provision requiring each Subcontractor to include or otherwise be subject to same payment and interest requirements with respect to each lower-tier Subcontractor.

15.01.F.5. Contractor’s obligation to pay interest charge to Subcontractor pursuant to payment clause in this Article shall not be construed to be obligation of Owner. A contract modification shall not be made for purpose of providing reimbursement for interest charge. A cost reimbursement claim shall not include any amount for reimbursement for interest charge.

SC 15.03.B. Add the following new subparagraph to Paragraph 15.03.B:

SC 15.03.B.1. If some or all of the Work has been determined not to be at a point of Substantial Completion and will require re-inspection or re-testing by Engineer, the cost of such re-inspection or re-testing, including the cost of time, travel and living expenses, shall be paid by Contractor to Owner. If Contractor does not pay, or the parties are unable to agree as to the amount owed, then Owner may impose a reasonable set-off against payments due under Article 15.

SC-15.07. Delete Paragraph 15.07.A in its entirety and insert the following in its place:

15.07.A. Contractual claims whether for money or other relief, shall be submitted by Contractor in writing no later than 60 days after final payment; however, as a condition precedent to the Contractor’s right to file such a claim, written notice of Contractor’s intention to file such Claim shall have been previously given at the time of the occurrence giving rise to the claim and before performing any affected work. Contractor’s failure to provide notice at the time of the occurrence giving rise to the claim and before performing the affected work, shall constitute a waiver of all claims arising from or related to the occurrence. Failure of the Contractor to submit a Final Claim within 60 days of Final Payment shall constitute a waiver of all unresolved Claims by Contractor against Owner.
SC-15.09. Following Paragraph 15.08.E, insert Paragraph 15.09 as follows:

15.09. Contractor’s Waiver of Lien Rights—Contractor hereby waives any rights it may have or later acquire to file a lien under Virginia Code, Title 43, Chapter 1 on the property constituting Virginia International Gateway terminal, any interest therein, or any portion of the Work.

SC-16.04. Paragraph 16.04 is deleted in its entirety.

SC-17.01. Delete Article 17 in its entirety and substitute the following provisions:

ARTICLE 17 – RESOLUTION OF DISPUTES

17.01. General—This section supplements the provisions in the VPA Capital Outlay Manual, and governs all Contractor appeals, claims and disputes, and sets forth the exclusive remedies that are available to a bidder or contractor, under this IFB or a contract issued pursuant to this IFB. Nothing herein shall be construed to prevent the VPA from instituting legal action against a bidder or contractor. Venue for all legal actions related to this IFB or a Contract hereunder shall be solely in the Circuit Court for the City of Norfolk, Virginia.

17.02. Scope—These administrative procedures shall apply to all pre-Award and Contract disputes and decisions by VPA, including without limitation: appeals from disqualifications, appeals from determinations of non-responsibility, protests of award or decision to award a contract, and appeals from decisions on disputes arising during the performance of the contract. The administrative procedures provide for the opportunity to present pertinent information, and the issuance of a written decision. Disputes and claims shall be decided by an Administrative Review Panel ("the Review Panel") consisting of: (1) the Chief Financial Officer (CFO), (2) the Vice President, Sustainability & Process Excellence, and (3) the Vice President, Contracts & Risk Management. In the absence or unavailability of one of the designated panel members, the Executive Director shall appoint a replacement.

17.03. Pre-Award Disputes, Protests, and Appeals—VPA will use the following administrative procedure for hearing appeals from disqualifications, appeals from determinations of non-responsibility, protests of award or decision to award a contract ("Pre-Award Disputes").

A. Procedure. A bidder pursuant to a solicitation issued by VPA must file such Pre-Award Disputes with the Senior Director, Procurement. A Pre-Award Dispute shall be submitted to the Review Panel for a decision. The offer or bidder may submit materials for the consideration of the Review Panel, and a decision on the Pre-Award Dispute by the Review Panel actions shall be issued within the time periods provided below. This decision shall be final and conclusive unless the bidder, submits a written administrative appeal to the
VPA Executive Director within seven (7) calendar days of receipt of the written decision. The Executive Director or his/her Designee shall review the decision, and issue his decision on the appeal in writing within seven (7) calendar days after receiving the written appeal. The decision of the Executive Director or his/her Designee shall be final and conclusive and shall not be set aside unless the same is fraudulent, arbitrary, or capricious, or so grossly erroneous as to imply bad faith. A bidder or contractor shall be entitled to institute judicial review if such legal action is brought after receipt of the Executive Director or Designee’s written decision within the time specified herein. A bidder must utilize this administrative procedure, and these administrative procedures shall be exhausted prior to the bidder instituting legal action concerning the same procurement transaction unless the VPA agrees otherwise. All legal actions appealing such decisions shall be filed in Circuit Court for the City of Norfolk, Virginia. The types of Pre-Award Disputes that may be filed are as follows:

B. Grounds for Pre-Award Disputes.

1. Ineligibility—Any bidder refused permission to, or disqualified from participation in public contracts shall be notified in writing. Prior to the issuance of a written determination of disqualification or ineligibility, the VPA shall (i) notify the bidder in writing of the results of the evaluation, and (ii) disclose the factual support for the determination.

Within five (5) calendar days after receipt of the notice, the bidder or contractor may submit rebuttal information challenging the evaluation. The Review Panel shall issue its written determination of disqualification or ineligibility based on all information in the possession of the VPA, including any rebuttal information, within seven (7) calendar days of the date the VPA received such rebuttal information.

If the evaluation reveals that the bidder or contractor should be allowed permission to participate in the public contract, the VPA shall cancel the proposed disqualification action. If the evaluation reveals that the bidder or contractor should be refused permission to participate, or disqualified from participation, in the public contract, the VPA shall so notify the bidder or contractor. Such notice shall state the reasons for the action taken. A disqualification decision may be appealed to the Executive Director, as provided above, and the Executive Director or his Designee shall issue a decision on such appeal within seven (7) days.

2. Protest of Award or Decision to Award:

A protest of an Award or Decision to Award may only be filed by a bidder who actually submitted a bid in response to this IFB, and who would be in line for award if such protest was upheld or was successful.
A bidder may protest the award or decision to award a contract by submitting such protest in writing to the VPA purchasing office, no later than five (5) calendar days after the earlier of: (a) the bidder’s receipt of individual notice, or (b) public notice posted on the eVA website, of the award or the announcement of the decision to award the contract, whichever occurs first. The written protest must be received in the purchasing office no later than 5:00 p.m. on the fifth day. If the fifth day falls on a weekend or an official holiday, the five-day period expires at 5:00 p.m. on the next regular workday.

The written protest shall include the basis for the protest and the relief sought. No protest shall lie for a claim that the bidder selected for award is not a responsible bidder. The Review Panel shall issue a decision on the Protest within seven (7) calendar days. If the protestor chooses to appeal the denial of the protest, an administrative appeal must be delivered to the VPA Executive Director within seven (7) calendar days of the receipt of the Review Panel decision. The VPA Executive Director or his Designee shall issue a decision in writing within seven (7) calendar days of receipt of the appeal stating the reasons for the action taken. This decision shall be final unless the bidder or bidder files a legal proceeding to appeal this decision within seven (7) calendar days of receipt of the written decision. Nothing in this subsection shall be construed to permit a bidder to challenge the validity of the terms or conditions of the IFB.

If prior to an award it is determined in a legal proceeding that the decision to award is arbitrary or capricious, then the sole relief shall be a finding to that effect. If, after an award, it is determined that an award of a contract was arbitrary or capricious, then the sole relief shall be as hereinafter provided. Where the award has been made but performance has not begun, VPA may cancel the award and either reject or reevaluate bids or proposals. A protest by a bidder shall have no effect upon any existing contracts which have been awarded and accepted in good faith, or awards which must be made to ensure the continued operation of critical functions of the VPA, or if such other bids or proposals will expire.

C. Effect of Appeal Upon Contract—Pending final determination of a protest or appeal, the validity of a contract awarded and accepted in good faith shall not be affected by the fact that a protest or appeal has been filed.

D. Legal Actions—The administrative procedures herein shall be exhausted prior to instituting legal action concerning the same procurement transaction. Unless otherwise provided herein, any legal action to appeal a decision of the
Executive Director or his designee must be filed in the Circuit Court for the City of Norfolk, Virginia within seven (7) days of receipt of the decision.


A. Claims or Disputes.

1. All formal disputes regarding requests for additional compensation, adjustment of contract time, or other relief under a VPA contract shall be submitted as a claim. Written notice of the contractor’s intention to file a claim must be given at the time of the occurrence or beginning of the work upon which the claim is based, in accordance with the provisions of the Contract Documents. Such notice shall be entitled or clearly marked “Notice of Intent to File Claim.” Contractual claims whether for money or other relief must be submitted in writing to the Senior Director, Procurement, no later than sixty (60) days after final payment. Unless otherwise agreed between VPA and the Contractor, all claims will be resolved following submission of claims after final payment. The submission of the notice in manner prescribed herein and the claim within the times specified shall be a condition precedent to the contractor’s right to maintain a claim. Pending resolution of any dispute, the contractor must continue performance of the contract unless otherwise directed by VPA.

2. All claims will be submitted for a decision by the Review Panel. Failure of the Review Panel to render a decision on the claim within one hundred twenty (120) days after final payment may be deemed a denial of the claim by the contractor and it may proceed as provided herein.

3. A contractor dissatisfied with the decision of the Review Panel on its claim may appeal that decision in writing to the Executive Director within seven (7) days of receipt of the decision on the claim. Within seven (7) days, of receipt of the appeal, or such longer time as agreed between VPA and the contractor, the Executive Director or his designee shall afford the contractor an opportunity to be heard on the claim, and shall render a written decision on the contractor’s appeal and claim within thirty (30) days following receipt of the contractor’s submission.

4. A contractor may not institute legal action prior to receipt of the Executive Director’s written decision on the claim unless the Executive Director fails to render a final decision within sixty (60) calendar days of receipt of the contractor’s appeal of the Review Panel’s decision, or such longer time as agreed between VPA and the contractor. The decision of the Executive Director or his Designee shall be final and conclusive unless the contractor, within thirty (30) days following receipt of the
decision of the Executive Director or his designee, requests that the dispute be submitted to mediation.

5. Upon such request, the contractor and VPA shall within seven (7) days select a mediator, and such mediation shall commence within thirty (30) days following the request of the contractor. Submission of the dispute to mediation is a condition precedent to the contractor’s rights to further review or challenge to the decision of the Executive Director or his designee on the claim or dispute.

6. If the claim or dispute is not resolved at mediation, the contractor may appeal the decision of the Executive Director or his designee by filing a legal action in the in the Circuit Court of the City of Norfolk, Virginia within sixty (60) days following the conclusion of the mediation. The submission of the timely written notice of intent to file claim in the manner prescribed herein, the submission of the claim within the times specified, and the exhaustion of the administrative appeals provided herein, shall be conditions precedent to the contractor’s right to bring any legal proceeding against the VPA. Upon appeal in a legal proceeding, the decision or action taken by the Executive Director or his designee shall not be overturned unless it is determined that the decision or action taken was arbitrary or capricious, procured by fraud, was in bad faith, or was not in accordance with the Constitution of Virginia, statute, or regulations.

SC-19. Add a new Article 19 and Paragraph 19.01 at the end of the General Conditions as follows:

ARTICLE 19 – SMALL BUSINESS SUBCONTRACTING PLAN

19.01. In accordance with the Commonwealth’s policy of facilitating and maximizing the participation of small businesses and businesses owned by women and minorities in its purchasing programs, all bidders shall include a Small Business Subcontracting Plan (Exhibit D). This requirement is to ensure DMBE-certified small business participation, which will assist efforts toward achieving the statewide goal of 40 percent of the Commonwealth’s discretionary spending in combined prime and subcontracts for small businesses. All bids shall include ‘Exhibit D’ completed as required. The goal for businesses described in this paragraph shall be 10 percent for this Project.

END OF SECTION
EXHIBIT A

OWNER CONTROLLED INSURANCE PROGRAM

1. Introduction:

Owner has arranged for this project ("Project") to be insured under an Owner Controlled Insurance Program ("OCIP") to be administered by Willis Towers Watson, (the "OCIP Administrator"). With the exception of Excluded Parties (as defined below), all parties performing labor or services at the Project site are eligible to enroll in the OCIP and shall enroll in the OCIP.

The OCIP will provide to Enrolled Parties (as defined below) Commercial General Liability, Excess Liability and Environmental Liability insurance (the “OCIP Coverages”), as summarily described herein, in connection with their operations at the Project Site (as defined by OCIP Policies). The OCIP Coverages do not include insurance for off-site activities.

The OCIP requirements are set forth in this Exhibit A and shall be further described in the OCIP Project Insurance Manual (the "OCIP Manual"). This Exhibit is hereby incorporated into, and made part of, those Plans, Specifications, General Conditions, Special Conditions and all Addenda thereto (the “Contract Documents”) issued to Contractor in connection with its Work on the Project.

2. Enrolled Parties:

The OCIP shall cover Enrolled Parties only. Enrolled Parties are the following entities that have successfully enrolled:

(a) The Owner;
(b) Construction Manager;
(c) Contractor and Subcontractors of all tiers, including temporary labor services and leasing companies; and
(d) Any other persons or entities as Owner may designate, in its sole discretion.

In addition to the OCIP Coverage, Enrolled Parties shall obtain and maintain, and shall require each of their Subcontractors of all tiers to obtain and maintain, the insurance coverage as specified in Section 6 of the Construction Contract.

Except as provided by applicable law, Owner’s furnishing of OCIP Coverages shall in no way relieve or limit, or be construed to relieve or limit, any Enrolled Party of any responsibility, liability, or obligation imposed by the Contract Documents, the OCIP insurance policies, or by law, including, without limitation, any indemnification obligations which any Enrolled Party has to Owner, or any other party thereunder.
3. Excluded Parties:

The following “Excluded Parties” shall not be included in the OCIP, even if erroneously enrolled. Excluded Parties are:

(a) Contractors and any Subcontractors of any tier that do not perform any actual labor on the Project Site;
(b) Architects, surveyors, engineers, and soil testing engineers, and their consultants;
(c) Hazardous materials remediation, removal and/or transport companies and their consultants;
(d) Vendors, suppliers, fabricators, material dealers, truckers, haulers, drivers and others who merely transport, pick up, deliver, or carry materials, personnel, parts or equipment, or any other items or persons to or from the Project Site;
(e) Any party performing structural demolition and/or blasting operations;
(f) Crane erection and/or dismantling companies;
(g) Contractors whose sole scope of work includes Exterior Insulation and Finish Systems;
(h) Guard service, janitorial service and food service companies;
(i) Any other parties whom the Owner elects, in its sole discretion, to exclude from the OCIP, even if otherwise eligible.

Excluded Parties shall obtain and maintain, and shall require each of their Subcontractors of all tiers to obtain and maintain, the insurance coverage specified in Section 11 below.

4. OCIP Coverages Governed Exclusively by the OCIP Policies:

The OCIP Coverages described and/or summarized in this Exhibit and any other Contract Documents are set forth in full in the respective OCIP insurance policies (the “OCIP Policies”). The summary descriptions of the OCIP Coverages in this Exhibit or the OCIP Manual are not intended to be complete or to alter or amend any provision of the actual OCIP Policies. In the event that any provision of this Exhibit, the OCIP Manual, or the Contract Documents conflicts with the OCIP Policies, the provisions of the actual OCIP Policies shall govern.

5. Summary of OCIP Coverages:

OCIP Coverages shall apply only to Enrolled Parties and only to those operations of each Enrolled Party performed at the Project Site (as defined by the OCIP Policies) in connection with the Work.
The OCIP Coverages shall provide, subject to Section 4 above, at least the following insurance to Enrolled Parties:

(1) **Commercial General Liability (CGL):** (Coverage for off-site operations is excluded unless locations are scheduled and approved by the Owner and OCIP insurance carriers).

<table>
<thead>
<tr>
<th>Limits of Liability Shared by All Insureds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Each Occurrence Limit</td>
</tr>
<tr>
<td>General Aggregate Limit</td>
</tr>
<tr>
<td>Products/Completed Operations Aggregate</td>
</tr>
<tr>
<td>Personal and Advertising Injury Limit – any one person or organization</td>
</tr>
<tr>
<td>Damages to Premises Rented to Others – any one premise</td>
</tr>
<tr>
<td>Medical Expense Limit – any one person</td>
</tr>
</tbody>
</table>

Policy Form: ISO CG0001 (04/13) or equivalent

- Defense is Outside of Limit

- The General Aggregate Limit will reinstate annually. The Products/Completed Operations Aggregate including the extension period will not reinstate.

- The Products/Completed Operations Hazard Extension with Repair Work subject to the applicable statute of repose provided by the controlling law of the jurisdiction where the project is located is included (Virginia – 5 years).

- This insurance is primary for occurrences at the Project Site (as defined in the CGL insurance policy).

- The General Aggregate Limit is not shared with other projects.

- Products & Completed Operations Aggregate Limit is not shared with other projects.

- Limits shared by all insureds.

GL Obligation - The OCIP Coverage is subject to a deductible of $25,000 per occurrence, which cost shall be born initially by the Owner. At Owner’s discretion, Contractor shall be required to reimburse Owner a sum of up to $10,000 for each occurrence, including court costs, claims adjustment expenses, attorney’s fees and costs of defense for bodily injury or property damage, to the extent such losses payable under the OCIP Commercial General Liability Policy are attributable to
Contractor’s Work, acts or omissions, or the Work, acts or omissions of any of Contractor’s Subcontractors, or any other entity or party for whom Contractor may be contractually or legally responsible (“General Liability Obligation”). The General Liability Obligation shall remain uninsured by Contractor and will not be covered by the OCIP Coverages. If a loss arises out of, or is the responsibility of one or more Subcontractors, Contractor may seek recovery from the Subcontractor(s) for the deductible amount paid by Contractor in accordance with the terms of their Subcontract Agreement.

(2) **Excess Liability Insurance** with minimum limits of at least:

- $50,000,000 Each Occurrence/all insureds
- $50,000,000 General Aggregate
- $50,000,000 Products/Completed Operations Aggregate

- Excess of primary OCIP Commercial General Liability policy subject to policy terms and conditions.
- The General Aggregate Limit is not shared with other projects.
- Products and Completed Operations Aggregate Limit is not shared with other projects.
- Products/Completed Operations Hazard Extension with Repair Work subject to the applicable statute of repose provided by the controlling law of the jurisdiction where the project is located is included (Virginia – 5 years).
- Products/Completed Operations Aggregate is a single limit for the construction term and entire extension period.
- Limits shared by all insureds.

A single lead excess and layered Excess Liability policies will be issued and will include all Enrolled Contractors as Named Insureds and copies of policies are available upon written request to the OCIP Administrator.

(3) **Pollution Liability:**

OCIP coverage shall include pollution liability coverage including mold coverage. Such insurance shall include coverage for any personal injury, including bodily injury and death, or property damage, and losses (including but not limited to clean-up costs) associated with, caused by, resulting from or in any way related to pollution conditions or to the presence or growth of mold, mildew, mycotoxins, fungi, bacteria or anything similar to the foregoing.

Environmental liability coverage including mold coverage shall have coverage limits of not less than $10,000,000 each claim. Coverage may be provided on a claims made basis. If such insurance is issued on a claims made form, such coverage shall apply with a retroactive date to reflect the date on which Work commenced under the Contract, and coverage shall be maintained continuously.
including for a minimum of five (5) years following Project completion or included with an Extended Reporting Period for the equivalent length of time.

Pollution Liability Obligation - The OCIP Coverage is subject to a deductible of $25,000 per occurrence, which cost shall be born initially by the Owner. At Owner’s discretion, Contractor shall be required to reimburse Owner a sum of up to $10,000 for each occurrence, including court costs, claims adjustment expenses, attorney’s fees and costs of defense for bodily injury or property damage, to the extent such losses payable under the OCIP Pollution Liability Policy are attributable to Contractor’s Work, acts or omissions, or the Work, acts or omissions of any of Contractor’s Subcontractors, or any other entity or party for whom Contractor may be contractually or legally responsible (“Pollution Liability Obligation”). The Pollution Liability Obligation shall remain uninsured by Contractor and will not be covered by the OCIP Coverages. If a loss arises out of, or is the responsibility of one or more Subcontractors, Contractor may seek recovery from the Subcontractor(s) for the deductible amount paid by Contractor in accordance with the terms of their Subcontract Agreement.

6. OCIP Coverage Period:

The OCIP Coverages shall be effective following the Enrolled Party’s successful enrollment, as deemed by the OCIP Administrator. Except as respects any completed operations coverage as described below (and as governed by the relevant OCIP Policies), and subject to Section 13 herein, coverage shall terminate upon expiration of the OCIP Policies (as set forth in the OCIP Policies), notification by the OCIP Administrator, or the Enrolled Party’s substantial completion of its work, whichever is earlier.

Parties no longer covered by the OCIP shall obtain and maintain, and shall require each of their Subcontractors to obtain and maintain, the insurance coverage as specified in Section 11 below.

7. Evidence of OCIP Coverages:

The OCIP Administrator will issue Certificates of Insurance to each Enrolled Party evidencing Commercial General Liability and Excess Liability. Copies of the OCIP Policies will be made available by the OCIP Administrator to any Enrolled Party upon written request by that Enrolled Party.

8. Owner’s Insurance Obligations:

(a) Owner shall pay the costs of premiums & deductibles for the OCIP insurance policies and Owner will receive or pay, as the case may be, all adjustments to costs, whether by way of dividends, retroactive adjustments, return premiums, other moneys due, audits or otherwise.
(b) Owner assumes no obligation to procure insurance other than as specified in this Exhibit.

(c) Owner reserves the right at its option, to furnish other insurance coverage of various types and limits provided that such coverage is not less than that specified in the Contract Documents.

9. Contractor Obligations:

(a) All parties, enrolled or excluded, shall incorporate the terms of this Exhibit into all subcontract agreements.

(b) All eligible parties shall enroll in the OCIP and shall comply with all OCIP Administrator’s instructions for properly enrolling in the OCIP.

(c) The following provisions apply to Enrolled Parties only:

i. Enrolled Parties shall comply with, and shall require all of its enrolled Subcontractors and Enrolled Party Subcontractors of all tiers to comply with, the OCIP Administrator’s instructions for enrolling in the OCIP.

ii. Enrolled Parties shall maintain enrollment in the OCIP, and shall ensure all of its enrolled Subcontractors of all tiers enroll and maintain enrollment in the OCIP. Enrollment shall take place within five (5) days of a receipt of a Notice to Proceed, and prior to commencement of any work.

iii. Enrolled Parties hereby assign to Owner the right to receive all adjustments to the cost of premiums for the OCIP Policies, and shall require that each of its Subcontractors of every tier assigns to Owner the right to receive all such adjustments.

iv. Enrolled Parties shall comply with all of the requirements set forth in this Exhibit, the OCIP Manual, and the OCIP Policies.

v. Enrolled Parties shall provide to each Subcontractor of all tiers a copy of the OCIP Manual and shall ensure such Subcontractors’ compliance with the provisions of the OCIP Policies (for Enrolled Parties), the OCIP Manual and this Exhibit. The failure of an Enrolled Party to provide each of its enrolled Subcontractors with a copy of the same shall not relieve the Enrolled Party, or any such enrolled Subcontractors of any of the obligations contained therein.

vi. By agreeing to this Exhibit, the Enrolled Party hereby acknowledges, and shall require each of its Subcontractors to acknowledge, in writing, that Owner and the OCIP Administrator are not agents,
partners, or guarantors of the insurance companies providing the OCIP Policies (each individually referred to hereafter as “OCIP Insurer” and collectively, the “OCIP Insurers”), that neither the Owner nor the OCIP Administrator is responsible for any claims or disputes between or among Contractor, its Subcontractors, and any OCIP Insurer(s), and that neither Owner nor the OCIP Administrator guarantees the solvency, or the availability of limits, of any OCIP Insurer(s) or OCIP Policy(ies). Any type of insurance coverage or limits of liability in addition to the OCIP Policies that the Enrolled Party or its Subcontractors of any tier require for its or their own protection, or that is required by applicable laws or regulations, shall be Enrolled Party’s or its Subcontractors’ sole responsibility and expense, and shall not be billed to Owner.

vii. Enrolled Parties shall fully cooperate with, and require all of its Enrolled Subcontractors of all tiers to fully cooperate with, the OCIP Administrator and the OCIP Insurers, as applicable, in its or their administration of the OCIP including, but not limited to:

   a. Attending meetings held in connection with the OCIP;
   b. Shall comply with all administrative, safety, insurance, and other requirements outlined in this Exhibit;
   c. Shall comply with and following the claim reporting procedures established in the OCIP;
   d. Shall assist and cooperate in every manner possible with the reporting, investigation, and adjustment of all claims and demands of all claims and/or demands which the Owner, Contractor, OCIP Administrator, and/or OCIP Insurers are called upon to adjust or defend against arising out of operations at the Project Site.

viii. Enrolled Parties agree to release audit information and share claim data with Owner, the OCIP Administrator and the OCIP Insurer(s).

ix. Enrolled Parties shall provide, and require all of its Enrolled Subcontractors of all tiers to provide, within five (5) business days of Owner’s or the OCIP Administrator's request, all documents or information as requested. Such information may include, but is not limited to, certified copies of insurance policies, declaration pages of policies, rating pages, certificates of insurance, underwriting data, prior loss history information, insurance audits, or such other data or information as Owner, the OCIP Administrator, or OCIP Insurers may request in the administration of the OCIP.
10. **Bid Procedure – Net Bid:**

In consideration of the insurance coverage provided by the Owner, Contractor will submit its bid price for the original scope of work and subsequent change orders excluding insurance costs provided by the OCIP. Each contractor shall provide an OCIP Alternative Insurance Bid line item for the cost of insurance coverage provided by the Owner for work performed at the Project Site. The identified cost for insurance coverage is subject to review and approval by the Owner and the OCIP Administrator.

11. **Insurance Required From Excluded Parties:**

Before commencing the Work, the following insurance coverages from insurance companies satisfactory to Owner shall be in place and maintained until completion and final acceptance of the Work, or as otherwise stated herein.

The OCIP coverages include only Commercial General Liability insurance for a specific period of time and at a specifically defined location. Enrolled Parties must provide the following insurance for all operations (including Commercial General Liability for off-site operations not included in the OCIP coverages). Excluded Parties or any party not enrolled in the OCIP must provide the following coverage for all operations.

a. **Commercial Automobile Liability Insurance:** Commercial Automobile Liability insurance covering all owned, leased and non-owned vehicles used in connection with the work with minimum limits of $5,000,000 combined single limit per accident for bodily injury and property damage which shall apply as primary and non-contributory insurance, and which in no event will share with insurance maintained by Owner, any party required to be indemnified by this Contract or any party required to be added as an additional insured by this Contract. The policy must include coverage for bodily injury, death and property damage arising out of contracting for, maintenance or use of any motorized vehicle on or off the site of the Project, and Contractual Liability coverage. If hauling of hazardous waste is part of the work, Automobile Liability Insurance with a minimum $5,000,000 combined single limit per occurrence for bodily injury and property damage applicable to all hazardous waste hauling vehicles, and including the MCS 90 endorsement and the ISO Form CA 99 48 (Pollution Liability Broadened Coverage for Business Automobile).

b. **Worker’s Compensation/Employer’s Liability Insurance:**

(a) Statutory Workers Compensation (including occupational disease) in accordance with the laws of the state in which the work is performed, including the Other States Endorsement.

(b) Employers Liability Insurance with $1,000,000 in minimum limits for each of the following exposures: bodily injury by accident (each accident); bodily injury by disease (each employee), and bodily injury by disease (policy limit).
Terms and conditions shall include:

- USL&H.
- Jones Act.
- All states endorsement - where applicable.
- Certificate must clearly identify that coverage applies in the State in which the Project is located.

If any Subcontractor leases one or more employees through the use of a payroll, employee management or other company, the Subcontractor must procure Workers Compensation insurance written on a “If Any” policy form and will be in addition to the Workers Compensation coverage provided to the leased employees by the payroll, employee management or other company. The insurance shall include an endorsement providing coverage for Alternate Employer/Leased Employee liability.

c. **Commercial General Liability Insurance:**

Commercial General Liability (CGL) Insurance written on Insurance Services Office form CG 00 01 Edition date 04/13 occurrence form or equivalent including coverage for:

1. Ongoing Construction Operation(s) in effect at all times while work is being performed;
2. Products and Completed Operations, including coverage applicable to additional insureds (as required by this Exhibit) with Completed Operations coverage to remain in force, after completion of the Work, whether by endorsement or renewal of coverage, including Owner, any party required to be indemnified by this Contract and any other party required by this Contract to be named as an additional insured, for a period of 5 years or equal to the statute of repose in the state in which the Project is located, whichever is greater;
3. Coverage to include Terrorism, Independent Contractors, Broad form property damage, Personal and Advertising Injury; Blanket contractual liability, and Explosion, collapse and underground hazards.
4. CG 22 79 07 98 (or equivalent) is the only acceptable Professional Liability Exclusion.
5. CG 24 17 10 01 - Contractual Liability – Railroads

The CGL Insurance shall have the following minimum limits of liability:

- Each Occurrence $1,000,000
- Products and Completed Operations Aggregate $2,000,000
- Personal and Advertising Injury $1,000,000
- General Aggregate $2,000,000
- Damage to Premises Rented to You $100,000
- Medical Payments $10,000
The general aggregate coverage limits shall be dedicated for this Project and shall be evidenced on the Party’s Certificate of Insurance.

d. Contractor’s Umbrella/Excess Insurance:

Contractor’s Umbrella/Excess Insurance to be issued on a follow-form basis excess to all required coverages except pollution and professional liability insurance and to contain the following minimum limits of liability:

<table>
<thead>
<tr>
<th>Coverage</th>
<th>Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Each Occurrence</td>
<td>$25,000,000</td>
</tr>
<tr>
<td>General Aggregate</td>
<td>$25,000,000</td>
</tr>
<tr>
<td>Products/Completed Operations Aggregate</td>
<td>$25,000,000</td>
</tr>
</tbody>
</table>

This insurance shall follow form to the Employer’s Liability, Commercial General Liability and Automobile Liability policies and “drop down” for defense and indemnity in the event of exhaustion of the underlying insurance. Each such Umbrella/Excess insurance policy shall be specifically endorsed to provide that such limits are primary and non-contributory to any insurance of the Contractor and any other additional insured as defined in subparagraph l. below.

e. Property Insurance:

Property Insurance coverage shall be maintained for tools and equipment owned, leased, rented, or used by the Contractor in the performance of the Work. The Property Insurance shall extend to equipment, materials and supplies stored off the Project Site or in transit to the Project Site to be furnished as part of the Work and incorporated into the Project.

f. Contractor’s Professional Liability:

Required only if Contractor’s scope of services include architectural, design, engineering, professional consulting or construction management. Contractor shall provide professional liability insurance in an amount equal to the greater of: (a) the insurance currently maintained by the engineer or other design professional performing such design work; or (b) $5,000,000 each claim and annual aggregate; on a claims-made basis. Such insurance shall be maintained at all times during the Contractor’s performance on the Work, and for a period of five (5) years following completion of construction of the Work. In no event shall the deductible or self-insured retention on any such policy of insurance exceed $250,000 without the prior written consent of Owner.
**g. Aircraft/Watercraft Liability:**

**Aircraft and Aviation Liability:**

If required by Owner, the operator of an aircraft of any kind, including without limitations drones, must maintain liability insurance covering bodily injury and property damage on a Combined Single Limit basis, each Occurrence Limit and in the Aggregate (including passenger liability): $2,000,000.

If non-employee passengers are carried, there cannot be a per-passenger sublimit. Prior to commencing operations, the operator must provide the Owner with a certificate of insurance naming the Owner and other entities required by contract, as additional insureds on a primary and non-contributory basis. Operator and their insurer(s) must hold the Owner harmless and waive subrogation with respect to damage to the aircraft. If aircraft is to be used to perform lifts at the Project Site, a “slung cargo” endorsement must be included to cover the full replacement value of any equipment being lifted.

**Watercraft Liability:**

If required by Owner, Watercraft Liability (Marine Liability) and/or Protection and Indemnity insurance, including coverage for bodily injury, covering all owned, non-owned, and hired watercraft, used, operated or hired by the applicable Contractor or Subcontractor of any tier in connection with the Project will be maintained. Each Occurrence Limit and in the Aggregate (including passenger liability): $2,000,000.

**h. Riggers Liability Insurance:**

If the Work involves the rigging, hoisting, lowering, raising or moving of property or equipment then Riggers Liability Insurance is required to insure against physical loss or damage to property or equipment, including that which is in the rigger’s care, custody and control, with limits sufficient for replacement of the property or equipment damaged by the rigger’s operations. Owner will be named as a loss payee on such rigger’s insurance policy(ies).

**i. Railroad Protective Liability:**

If work is to be performed within 50 feet of any railroad property and affecting any railroad bridge or trestle, tracks, road beds, tunnel, underpass or crossing or otherwise required by the affected railroad, the Contractor and/or Subcontractor of any tier, shall provide Railroad Protective Liability Insurance naming the affected railroad as insured with minimum limits for bodily injury and property damage as required by the railroad. The original of the policy shall be furnished to the railroad and a certified copy of the same furnished to the Owner prior to
any related construction or entry upon railroad premises by the Contractor or Subcontractor for work related to the Contract.

j. **Insurer Requirements:**

Each insurer providing insurance policies as required in this Exhibit shall be a licensed insurer authorized to issue such policies in the State in which any part of the Work is performed. The insurer shall have an AM Best rating of “A-size rating XI” or higher and be otherwise satisfactory to Owner. Owner, in its sole discretion, shall have the right to reject any insurer.

k. **Additional Insureds:**

All insurance required by this Exhibit (excluding only Workers Compensation Insurance and Professional Liability Insurance) shall name Owner and all parties required to be indemnified by the Contract Documents and all other parties as reasonably requested by Owner, as additional insureds. It is expressly agreed and understood that all insurance afforded to the additional insureds (including primary, excess and/or umbrella) shall be primary and non-contributory to any other insurance maintained by Owner or the additional insured, all of which shall be stated on the Certificate of Insurance provided by the Contractor and Subcontractors. The coverage provided by such policies to the additional insureds shall be at least as broad as the coverage provided to the Contractor or Subcontractor (first named insured). Further, the amount of insurance available to Owner or the additional insured shall be for the full amount of the loss up to policy limits of liability and shall not be limited to any minimum requirements stated in the Contract Documents. The Additional Insured Endorsement shall be on Forms CG 20 10 10/01 and CG 20 37 10/01, or equivalent, and shall include ongoing and completed operations coverage, without any additional restrictions.

IN THE EVENT THAT THE LAW OF THE STATE IN WHICH THE PROJECT IS LOCATED (OR APPLICABLE LAW) LIMITS THE ADDITIONAL INSURED COVERAGE THAT OWNER MAY REQUIRE FROM CONTRACTOR, THEN CONTRACTOR SHALL BE REQUIRED TO OBTAIN ADDITIONAL INSURED COVERAGE TO THE FULLEST EXTENT OF COVERAGE AND LIMITS ALLOWED BY APPLICABLE LAW AND THIS CONTRACT SHALL BE READ TO CONFORM TO SUCH LAW.

**Subject to the foregoing, the following entities are to be named as additional insureds pursuant to this subsection:**

Virginia Port Authority  
Virginia International Terminals, LLC  
Virginia International Gateway, Inc.  
Commonwealth of Virginia
l. **Certificate of Insurance and Proof of Insurance:**

Prior to commencing its Work under this Exhibit and anytime thereafter when required insurance changes or is modified, Contractor shall provide Owner with:

1) a current Certificate of Insurance evidencing the coverages required by this Exhibit (including the amount of any self-insured retention [SIR] or deductible);
2) a copy of the provisions in the policy or the endorsement adding the parties required by this Exhibit to be added as additional insureds;
3) waiver of any and all right of subrogation against Owner and all additional insureds;
4) cross liability/severability endorsement (unless the base policy contains a separation of insured clause accomplishing the same result);
5) a copy of the provisions in the policy or the endorsement providing that the insurance provided to the additional insureds (whether primary, excess, or umbrella) is primary and non-contributory and shall not seek contribution from any coverage carried by the parties required to be additional insureds by this Exhibit and
6) 30 day notice of cancellation.

Upon request Contractor shall also provide Owner with a certified copy of any policy providing coverage required by this Exhibit.

m. **Subcontractor:**

Before permitting any Subcontractor to perform work under a subcontract, the Contractor shall require by written contract that any of its Subcontractors maintain insurance in like form and amounts to that required herein and shall provide evidence of same to Owner if requested. Contractor will require its Subcontractors to carry and maintain the same types and coverages required of Contractor under the Contract with commercially reasonable limits commensurate with their respective scopes of work and risks related thereto on such policies. However, that such limits shall not be less than the lesser of: (a) the limits specified in Section 11; or (b) $5,000,000 for each occurrence, $5,000,000 annual aggregate, unless otherwise approved by Owner in writing. Such limits may be satisfied by the Subcontractors through any combination of primary and excess coverage.

n. **Notice of Cancellation:**

All insurance policies required by this Exhibit shall contain a provision that the coverage afforded thereunder cannot be cancelled, non-renewed, allowed to lapse, or have any restrictive modifications added unless at least thirty (30) days prior written notice has been given to Owner and OCIP Administrator. Contractor and Subcontractors are responsible to provide replacement coverage conforming to the requirements of this Exhibit in the event of any cancellation, non-renewal or modification of any insurance policies required by this Exhibit.
o. **Notice to Insurers**

Contractor is responsible for notifying its insurance carriers in the event of a loss or potential loss involving coverage for the additional insureds. However, this does not prohibit any additional insureds from reporting a claim directly to Contractor’s insurance carriers.

p. **Deductibles/Denial of Claims:**

Contractor shall be responsible, at no additional cost to Owner, for the payment of any deductibles, chargebacks, or self-insured retention in connection with the insurance coverages required by this Exhibit, both for itself and all additional insureds. Any self-insured retention (SIR) or deductible of $250,000 or more must be declared in writing at the time Contractor submits its bid and must be specifically approved by Owner prior to execution of the Contract. Contractor shall be responsible for any loss arising out of coverage denial by its insurance carrier. Subcontractor may not procure policies that limit who may pay the SIR or deductible; rather, any SIR shall be payable by either the Contractor or Owner and the Contractor may not have a policy that prevents Owner from accessing or triggering coverage unless the SIR is paid by the Contractor. Contractor shall also ensure that similar conditions are incorporated into all subcontracts. In the event that Owner is required to pay any deductible, chargeback and/or SIR to access coverage under any insurance policy, Contractor shall promptly reimburse Owner for such payment.

q. **OCIP Exclusion Limitation**

If any party’s insurance includes an exclusion tied to Owner Controlled Insurance Programs (a.k.a. “wrap-ups” or “OCIPs”) or other project-specific insurance, it may apply only to the extent of coverage available to that party under the OCIP or other Owner-provided insurance. Such exclusion may not be broader than what the OCIP or such other Owner-provided insurance actually covers.

r. **Waiver of Claim/Waiver of Subrogation/Waiver of Transfer of Rights of Recovery:**

Contractor waives its right to recover from Owner and any additional insured for all claims required to be covered by insurance required under this Exhibit. All insurance policies required by this Exhibit shall include a waiver of subrogation and any other rights of recovery by the insurer in favor of Owner and all parties that Contractor is required to name as additional insureds.

s. **No Limitation:**

The insurance coverages maintained by Contractor shall not limit any of Contractor’s indemnity obligations or other liabilities under the Contract.
t. **Severability of Interests/Cross Liability:**

All insurance required by this Exhibit (excluding only Workers Compensation Insurance and Professional Liability Insurance) shall include a provision or be endorsed to provide that, inasmuch as the policy is written to cover more than one insured, all terms, conditions, insuring agreements and endorsements, with the exception of limits of liability, shall operate in the same manner as if there were a separate policy covering each insured. No cross liability exclusions are permitted and there may not be any restrictions in any policies that limit coverage for a claim brought by an additional insured against a named insured, or vice versa. Also, there shall not be any provision in any insurance policy which excludes or conditions coverage on the existence of a contract or other agreement requiring insurance.

u. **Claims Made Policies:**

Except for Professional Liability and Pollution Liability, claims made policies are not acceptable.

v. **Effect of Specified Coverages:**

In specifying minimum requirements herein, neither Owner nor the OCIP Administrator assert or recommend this insurance as adequate to Contractor’s business requirements. Contractor is solely responsible to inform itself of the types of insurance it may need beyond these minimum requirements to protect itself from loss, damage or liability. Failure of the Contractor to identify deficiencies in any insurance provided hereunder shall not relieve Contractor from any of its insurance obligations under this Exhibit.

w. **Breach of Insurance Requirements:**

Contractor’s failure to obtain and maintain insurance coverages required by this Exhibit shall constitute a material breach of contract. In such event Owner may at its option: (i) terminate the Contractor for default; or (ii) purchase such coverage and back-charge the premium and associated costs to Contractor; or (iii) at their respective option, Owner and/or an additional insured can require the Contractor to pay for attorney’s fees, expenses, damages and liability as a result of any claim or lawsuit to the extent coverage would have been provided to them under Contractor’s insurance but for Contractor’s breach. Owner has the right to back-charge Contractor for such sums. Furthermore, to the extent of their respective interest, the Insurers of those entities that were to be included as additional insureds are deemed to be third-party beneficiaries of the insurance procurement obligation.
x. **No Waiver of Insurance Requirements:**

IT IS EXPRESSLY AGREED BETWEEN OWNER AND THE CONTRACTOR THAT THE FAILURE OF OWNER TO REQUIRE OR VERIFY COMPLETE AND TIMELY PERFORMANCE OF THE CONTRACTOR’S OBLIGATIONS UNDER THIS EXHIBIT SHALL NOT BE A WAIVER BY OWNER OF ANY RIGHT OF OWNER TO REQUIRE THE CONTRACTOR TO COMPLY WITH THESE INSURANCE REQUIREMENTS AND/OR TO SEEK DAMAGES BECAUSE OF CONTRACTOR’S FAILURE TO COMPLY WITH THE INSURANCE REQUIREMENTS IN THIS EXHIBIT.

12. **Contractor’s Representations and Warranties to Owner:**

Contractor represents and warrants to Owner, and shall use its best efforts to ensure that each of its Subcontractors of every tier represent and warrant to Owner, that:

(a) All information they submit to Owner or to the OCIP Administrator shall be accurate and complete.
(b) Enrolled Contractors have the opportunity to read and analyze copies of the OCIP insurance policies that are on file in Owner’s office, and that they understand the OCIP Coverages. Any reference or summary in the Contract, this Exhibit, the OCIP Manual, or elsewhere in any other Contract Document as to amount, nature, type, scope, or extent of OCIP Coverages and/or potential applicability to any potential claim or loss is for reference only. Contractor and its Subcontractors of all tiers have not relied upon said reference, but solely upon their own independent review and analysis of the OCIP insurance policies in formulating any understanding and/or belief as to amount, nature, type or extent of any OCIP insurance policies and/or its potential applicability to any potential claim or loss.
(c) Contractor acknowledges that Owner shall not pay or compensate Contractor or any Subcontractor of any tier, in any manner, for the costs of OCIP insurance policies.

13. **Owner’s Election to Modify or Discontinue the OCIP:**

Owner may, for any reason, modify the coverage provided by the OCIP insurance policies, discontinue the OCIP or any part thereof, or request that Enrolled Parties or any of its Enrolled Subcontractors of any tier withdraw from the OCIP upon thirty (30) days written notice. Upon such notice Contractor and/or one or more of its Enrolled Subcontractors, as specified by Owner in such notice, shall obtain and thereafter maintain during the performance of the Work, all (or a portion thereof as specified by Owner) of the OCIP Coverages. The form, content, limits of liability and the insurer issuing such replacement insurance shall be subject as set forth in Section 11 of this section for both on-site and off-site operations. The cost of the replacement insurance shall be at Owner’s expense, but only to the extent of the applicable Costs of the OCIP insurance policies.
14. Withholding Payment:

Owner may withhold from any payment owed or owing to Contractor or its Enrolled Subcontractors of any tier the Costs of OCIP Coverages for Enrolled Parties if they are included in a request for payment. In the event that an audit of Contractor’s records and information as permitted in the Contract, this Exhibit, or in other Contract Documents reveals a discrepancy in the insurance, payroll, safety, or any other information required by the Contract Documents to be provided by Contractor to Owner, or to the OCIP Administrator, Owner shall have the right to full deduction from the Contract Price/Contract Sum of all such Costs of OCIP Coverages and all audit costs. Audit costs shall include, but shall not be limited to, the fees of the OCIP Administrator, and the fees of attorneys and accountants conducting the audit and review. If the Contractor or its Subcontractors of any tier fail to timely comply with the provisions of this Exhibit, Owner may withhold any payments due to Contractor and/or its Subcontractors of any tier until such time as they have performed the requirements of this Exhibit. Such withholding by Owner shall not be deemed to be a default under the Contract Documents.

15. Waiver of Claims/Subrogation

Where permitted by law, Contractor hereby waives all rights of recovery because of deductible clauses, inadequacy of limits of any insurance policy, limitations or exclusions of coverage, or any other reason, against Owner, the OCIP Administrator, its or their officers, agents, or employees, and any other Contractor or Subcontractor performing Work or rendering services on behalf of Contractor in connection with the planning, development and construction of the Project. All insurance maintained by Contractor or Subcontractor of any tier in conformity with this Exhibit must waive all rights of recovery by subrogation against Owner and all other parties required by this Exhibit to be additional insureds. Such waiver of rights of recovery and subrogation must be effective as to any individual or entity even if such individual or entity (a) would otherwise have a duty of indemnification, contractual or otherwise, (b) did not pay the insurance premium directly or indirectly, and (c) whether or not such individual or entity has an insurable interest in the property damaged.

16. Audits:

Contractor and each subcontractor agree that Owner, the OCIP Administrator, and/or any OCIP insurer(s) may audit their records, insurance coverages, insurance cost information, or any other information that Contractor or any subcontractor provides to Owner, the OCIP Administrator, or the OCIP insurer(s) to confirm their accuracy and to identify their insurance costs as established previously herein.
EXHIBIT B
PARTIAL RELEASE AND WAIVER OF LIEN

WHEREAS, a Contract for the construction of the below-named Project was entered into on the below stated Contract Effective Date, by and between the Virginia Port Authority ("VPA" or "Owner"), and the following named Contractor:

<table>
<thead>
<tr>
<th>Project Name:</th>
<th>Virginia International Gateway – Phase II Expansion In-Gate Expansion and Rail Portal Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contractor Name:</td>
<td></td>
</tr>
<tr>
<td>Contract Effective Date:</td>
<td></td>
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</tbody>
</table>

WHEREAS, Contractor has made application for the following Partial Payment of the Contract Amount, as set forth below; and

<table>
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<tr>
<th>Payment Application Date:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Payment Application No.:</td>
<td></td>
</tr>
<tr>
<td>Partial Payment Amount:</td>
<td>$</td>
</tr>
</tbody>
</table>

WHEREAS, the Contractor is entitled to Partial Payment for that portion of the Work as set forth in or associated with the above Payment Application.

NOW, therefore, Contractor, for and in consideration of PARTIAL PAYMENT AMOUNT listed above does for it, its successors, heirs and assignees, hereby state, affirm and agree that, with respect to the Work set forth in or associated with the above Payment Application:

1. All labor employed thereon or in connection therewith and all payroll taxes and charges (such as withholding taxes, social security taxes and worker’s compensation, disability and unemployment taxes and/or insurance premiums) have been paid in full; and

2. All materials, tools, appliances, equipment, supplies and services furnished and used upon or in connection with said work have been paid for in full; and all sales, use, excise and similar taxes on or in connection with the same have been fully paid; and

3. Upon receipt by the undersigned of payment from VPA in the PARTIAL PAYMENT AMOUNT, this document shall become effective to release and forever discharge the Commonwealth of Virginia, the Virginia Port Authority, Virginia International Terminals LLC and Virginia International Gateway, Inc., and their respective officers, directors, agents, servants and employees, and all lands, improvements, chattels, and other real and personal property connected with or a part of said Project or Work from any and all claims, demands, liens, and claims of lien whatsoever arising out of the Contract Work performed prior to the date of this Lien Waiver and Release, except for the following pending claims or disputes for which proper notice has been previously provided in accordance with the Contract Documents and for which dispute resolution in accordance with the Contract Documents is currently being pursued:

(If there are no pending claims or disputes, write “None” in the following space):

<p>| |</p>
<table>
<thead>
<tr>
<th></th>
</tr>
</thead>
</table>
4. Contractor warrants that it has completed all Work performed to date as required under the above-identified Contract and all changes and amendments hereto, if any, performed to date; and that it has complied with all the terms and conditions of said Contract; and

5. Contractor will, at its sole cost and expense, forever defend and hold harmless the Commonwealth of Virginia, the Virginia Port Authority, Virginia International Terminals LLC and Virginia International Gateway, Inc., from any and all claims and demands and will defend against and obtain the discharge of any and all liens and claims of lien of others arising out of or in connection with the Work set forth in or associated with the above Payment Application, including, without limitation, those claimed or asserted by any employee, supplier or subcontractor of Contractor, or by any governmental agency or an insurance carrier; and

6. In the event that any of the Work performed by the Contractor on said Project (including the materials used or incorporated therein and the workmanship thereof), is the subject of any guarantee or warranty by the undersigned, neither the giving of this Partial Release and Waiver of Lien by the undersigned nor its acceptance by Owner shall operate in any way to reduce or modify such guarantee or warranty or to release the undersigned therefrom. Contractor further agrees that if it hereafter performs any labor or furnished any materials, tools, equipment, supplies or services pursuant to such guarantee or warranty, it will fully pay for the same, will pay any and all taxes and charges in connection therewith and will release, discharge, defend and hold harmless the Commonwealth of Virginia, the Virginia Port Authority, Virginia International Terminals LLC, and Virginia International Gateway, Inc., and the said lands, improvements, chattels and other real and personal property from any and all claims, demands, liens and claims of lien arising in connection therewith all in like manner and to the same extent as is herein provided with respect to labor, materials, etc., heretofore furnished. This Partial Release and Waiver of Lien shall inure to the benefit of the Commonwealth of Virginia, the Virginia Port Authority, Virginia International Terminals LLC, and Virginia International Gateway, Inc., and their respective successors and assigns and shall be binding upon the undersigned Contractor and its or their successors, heirs and assigns.

7. The work covered by this Partial Release and Wavier of Lien includes all of the Contract Work performed prior to its date of execution.

8. Contractor covenants to apply the payment being made pursuant to this Partial Release and Waiver of Lien solely to payment for labor, materials, tools, appliances, supplies and equipment furnished or used in connection with its work under the Payment Application until all of the same has been paid in full.

{SIGNATURES ON NEXT PAGE}
Dated this ________ day of ________, 201__, at ____________.

CONTRACTOR NAME:  
___________________________________

Signed:  
___________________________________

Name:  
___________________________________

Title:  
___________________________________

STATE OF _________________

COUNTY OF _________________

On this ________ day of ________, 201__, before me personally appeared  
___________________________________, to me personally known and known to me to be the same person  
described in and who executed the within instrument, consisting of 3 pages, of his/her own free will  
and duly acknowledged that he/she executed the same with full authority to do so.

(SEAL)  
Notary Public

My commission expires ______________
EXHIBIT C
FULL AND FINAL RELEASE
AND WAIVER OF LIEN

WHEREAS, a Contract for the construction of the below-named Project was entered into on the below stated Contract Effective Date, by and between the Virginia Port Authority ("VPA" or "Owner"), and the following named Contractor:

<table>
<thead>
<tr>
<th>Project Name:</th>
<th>Virginia International Gateway – Phase II Expansion In-Gate Expansion and Rail Portal Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contractor Name:</td>
<td></td>
</tr>
<tr>
<td>Contract Effective Date:</td>
<td></td>
</tr>
</tbody>
</table>

WHEREAS, by such Contract, Owner and Contractor have agreed that Contractor would fully and completely perform, furnish, and install the Work for the Project as set forth in said Contract in consideration for the payment of the Original Contract Price set for the below, as amended by the Change Order numbers in the Aggregate Change Order Amount as set forth below, aggregating in total to the Final Contract Price set forth below; and

<table>
<thead>
<tr>
<th>Original Contract Price</th>
<th>Change Order Numbers Issued</th>
<th>Aggregate Change Order Amount</th>
<th>Final Contract Price</th>
</tr>
</thead>
<tbody>
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</table>

WHEREAS, the work under said Contract and Change Orders has been fully completed and finally accepted by the Owner, and

NOW, therefore, Contractor, for and in consideration of FINAL PAYMENT AMOUNT listed above does for itself, its successors, heirs and assignees, hereby state, affirm and agree that, with respect to all of such work:

1. All labor employed thereon or in connection therewith and all payroll taxes and charges (such as withholding taxes, social security taxes and worker’s compensation, disability and unemployment taxes and/or insurance premiums) have been paid in full; and

2. All materials, tools, appliances, equipment, supplies and services furnished and used upon or in connection with said work have been paid for in full; and all sales, use, excise and similar taxes on or in connection with the same have been fully paid; and

3. Upon receipt by the undersigned of payment from VPA in the FINAL PAYMENT AMOUNT, this document shall become effective to release and forever discharge the Commonwealth of Virginia, the Virginia Port Authority, Virginia International Terminals LLC and Virginia International Gateway, Inc., and their respective officers, directors, agents, servants and employees, and all lands, improvements, chattels, and other real and personal property connected with or a part of said Project or Work from any and all claims, demands, liens, and claims of lien whatsoever arising out of said Contract and/or said Work and which it now has or hereafter might or could have except for the following pending claims or disputes for which proper notice has been previously provided in accordance with the Contract.
Documents and for which dispute resolution in accordance with the Contract Documents is currently being pursued:

(If there are no pending claims or disputes, write “None” in the following space):

4. Contractor warrants that it has completed all Work performed to date as required under the above-identified Contract and all changes and amendments hereto, if any, performed to date; and that it has complied with all the terms and conditions of said Contract; and

5. Contractor will, at its sole cost and expense, forever defend and hold harmless the Commonwealth of Virginia, the Virginia Port Authority, Virginia International Terminals LLC and Virginia International Gateway, Inc., from any and all claims and demands and will defend against and obtain the discharge of any and all liens and claims of lien of others arising out of or in connection with said Work, including, without limitation, those claimed or asserted by any employee, supplier or subcontractor of Contractor, or by any governmental agency or an insurance carrier; and

6. In the event that any of the Work performed by the Contractor on said Project (including the materials used or incorporated therein and the workmanship thereof), is the subject of any guarantee or warranty by the undersigned, neither the giving of this Full & Final Release and Waiver of Lien by the undersigned not its acceptance by Owner shall operate in any way to reduce or modify such guarantee or warranty or to release the undersigned therefrom. Contractor further agrees that if it hereafter performs any labor or furnished any materials, tools, equipment, supplies or services pursuant to such guarantee or warranty, it will fully pay for the same, will pay any and all taxes and charges in connection therewith and will release, discharge, defend and hold harmless the Commonwealth of Virginia, the Virginia Port Authority, Virginia International Terminals LLC and Virginia International Gateway, Inc., and the said lands, improvements, chattels and other real and personal property from any and all claims, demands, liens and claims of lien arising in connection therewith all in like manner and to the same extent as is herein provided with respect to labor, materials, etc., heretofore furnished. This Full & Final Release and Waiver of Lien shall inure to the benefit of the Commonwealth of Virginia, the Virginia Port Authority, Virginia International Terminals LLC, and Virginia International Gateway, Inc., and their respective successors and assigns and shall be binding upon the undersigned Contractor and its or their successors, heirs and assigns.

7. The work covered by this Full & Final Release and Waiver of Lien includes all of the Contract Work.

8. Contractor covenants to apply the payment being made pursuant to this Full & Final Release and Waiver of Lien solely to payment for labor, materials, tools, appliances, supplies and equipment furnished or used in connection with its work under the Contract until all of the same has been paid in full.

{SIGNATURES ON NEXT PAGE}
Dated this __________ day of ______________, 201__, at ________________.

CONTRACTOR NAME: ___________________________________

Signed: _____________________________________________

Name: ______________________________________________

Title: ________________________________________________

STATE OF __________________

COUNTY OF _________________

On this ______ day of ______________, 201__, before me personally appeared ____________________, to me personally known and known to me to be the same person described in and who executed the within instrument, consisting of 3 pages, of his/her own free will and duly acknowledged that he/she executed the same with full authority to do so.

_____________________________
(SEAL)

Notary Public

My commission expires ________________
Definitions

**Small Business:** "Small business" means an independently owned and operated business which, together with affiliates, has 250 or fewer employees, or average annual gross receipts of $10 million or less averaged over the previous three years. Note: DMBE-certified women- and minority-owned businesses shall also be considered small businesses when they have received DMBE small business certification.

**Women-Owned Business:** Women-owned business means a business concern that is at least 51% owned by one or more women who are citizens of the United States or non-citizens who are in full compliance with United States immigration law, or in the case of a corporation, partnership or limited liability company or other entity, at least 51% of the equity ownership interest is owned by one or more women who are citizens of the United States or non-citizens who are in full compliance with United States immigration law, and both the management and daily business operations are controlled by one or more women who are citizens of the United States or non-citizens who are in full compliance with the United States immigration law.

**Minority-Owned Business:** Minority-owned business means a business concern that is at least 51% owned by one or more minority individuals or in the case of a corporation, partnership or limited liability company or other entity, at least 51% of the equity ownership interest in the corporation, partnership, or limited liability company or other entity is owned by one or more minority individuals and both the management and daily business operations are controlled by one or more minority individuals.

All small businesses must be certified by the Commonwealth of Virginia, Department of Minority Business Enterprise (DMBE) to participate in the SWAM program. Certification applications are available through DMBE online at www.dmbe.virginia.gov (Customer Service).

Bidder/Offeror Name: _____________________________________________
Preparer Name: ________________________________________________ Date: ________________

**Instructions**

A. If you are certified by the Department of Minority Business Enterprise (DMBE) as a small business, complete only Section A of this form. This shall include DMBE-certified women-owned and minority-owned businesses when they have received DMBE small business certification.

B. If you are not certified by DMBE as a small business and plan to subcontract part of this contract with a DMBE certified business, complete only Section B of this form.

C. If you are not certified by DMBE as a small business and cannot identify any subcontracting opportunities to subcontract part of this contract with a DMBE-certified business, only provide the information requested in Section C of this form.

**Section A**

If your firm is certified by the Department of Minority Business Enterprise (DMBE), are you certified as a (check only one below):

- [ ] Small Business
- [ ] Small and Women-owned Business
- [ ] Small and Minority-owned Business

Certification number: _______________________________ Certification date: ________________
Section B

Populate the table below to show your firm's plans for utilization of DMBE-certified small businesses in the performance of this contract. This shall include DMBE-certified women-owned and minority-owned businesses that meet the small business definition and have received the DMBE small business certification. Include plans to utilize small businesses as part of joint ventures, partnerships, subcontractors, suppliers, etc.

B. Plans for Utilization of DMBE-Certified Small Businesses for this Procurement

<table>
<thead>
<tr>
<th>Small Business Name and Address</th>
<th>DMBE Certificate #</th>
<th>Status if Small Business is also:</th>
<th>Contact Person, Telephone and Email</th>
<th>Type of Goods and/or Services</th>
<th>Planned Contract Involvement</th>
<th>Planned Annual Contract Dollar Expenditure Amount</th>
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<td></td>
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<td>Women (W), Minority (M)</td>
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Section C

Respond to how your business has met or exceeded at least two of the following indicators within the past 24 months. Your response may include any good faith efforts made regarding this procurement.

C. Good Faith Effort Indicators by the Bidder/Offeror

1. Identify areas of work your business has subcontracted to DMBE-certified small businesses for other contracts. Include company names, dates, dollar amounts, and percentages on a per contract basis.

2. List research efforts conducted by your business in the past to locate DMBE-certified small businesses by advertising in publications or in the classified section of the newspaper where small businesses are likely to see it. List specific publications and dates.

3. List small business outreach meetings, conferences, or workshops conducted by your firm to locate DMBE-certified small businesses—including the dates, participation numbers, and results.

4. Provide documented correspondence (i.e., certified mail, email, receipt of fax transmissions, etc.) to small businesses from the lists provided by DMBE and other outreach agencies and organizations which indicates your solicitation of such for utilization of subcontracting opportunities on other contracts for which your business has competed.

5. List areas of work which your business has subcontracted with DMBE-certified small businesses for upcoming contracts—including the name of the business, certification number, dates, dollar amounts, and percentages on a per contract basis.

6. Provide documentation of any assistance offered to interested small businesses in obtaining bonds, lines of credit, and/or insurance for any present or past contracts your business has in place.

7. Provide documentation of follow-up on initial contacts with DMBE-certified small businesses (e.g., telephone call logs, emails, certified letters, etc.). Be sure to list the small business name and dates of contact.
SPECIFICATIONS
SECTION 01 11 00
SUMMARY OF WORK

PART 1 GENERAL

1.01 WORK COVERED BY CONTRACT DOCUMENTS

A. The completed Work will provide the Virginia Port Authority with an expanded in-gate structure and lanes in addition to a new rail portal. Construction work includes the following items:

1. New rail portal monitor, building, and associated equipment and civil works.
2. Four new in-gate lanes and extension of existing in-gate structure.
3. Extension of existing utility services to areas of new work including relocation of existing utilities.
4. Concrete and asphalt paving.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION
SECTION 01 26 00
CONTRACT MODIFICATION PROCEDURES

PART 1 GENERAL

1.01 PROPOSAL REQUESTS

A. Owner may, in anticipation of ordering an addition, deletion, or revision to the Work, request Contractor to prepare a detailed proposal of cost and times to perform contemplated change.

B. Proposal request will include reference number for tracking purposes and detailed description of and reason for proposed change, and such additional information as appropriate and as may be required for Contractor to accurately estimate cost and time impact on Project.

C. Proposal request is for information only; Contractor is neither authorized to execute proposed change nor to stop Work in progress as result of such request.

D. Contractor’s written proposal shall be transmitted to Engineer promptly, but not later than 14 days after Contractor’s receipt of Owner’s written request. Proposal shall remain firm for a maximum period of 45 days after receipt by Engineer.

E. Owner’s request for proposal or Contractor’s failure to submit such proposal within the required time period will not justify a claim for an adjustment in Contract Price or Contract Times (or Milestones).

1.02 CLAIMS

A. Include, at a minimum:

1. Specific references including (i) Drawing numbers, (ii) Specification section and article/paragraph number, and (iii) submittal type, submittal number, date reviewed, Engineer’s comment, as applicable, with appropriate attachments.

2. Stipulated facts and pertinent documents, including photographs and statements.

3. Interpretations relied upon.

4. Description of (i) nature and extent of claim, (ii) who or what caused the situation, (iii) impact to the Work and work of others, and (iv) discussion of claimant’s justification for requesting a change to price or times or both.
5. Estimated adjustment in price claimant believes it is entitled to with full documentation and justification.

6. Requested Change in Contract Times: Include at least (i) progress schedule documentation showing logic diagram for request, (ii) documentation that float times available for Work have been used, and (iii) revised activity logic with durations including sub-network logic revisions, duration changes, and other interrelated schedule impacts, as appropriate.

7. Documentation as may be necessary as set forth below for Work Change Directive, and as Engineer may otherwise require.

1.03 WORK CHANGE DIRECTIVES

A. Procedures:

1. Engineer will:
   a. Initiate, including a description of the Work involved and any attachments.
   b. Affix signature, demonstrating Engineer’s recommendation.
   c. Transmit five copies to Owner for authorization.

2. Owner will:
   a. Affix signature, demonstrating approval of the changes involved.
   b. Return four copies to Engineer, who will retain one copy, send one copy to the Resident Project Representative or other field representative, and forward two copies to Contractor.

3. Upon completion of Work covered by the Work Change Directive or when final Contract Times and Contract Price are determined, Contractor shall submit documentation for inclusion in a Change Order.

4. Contractor’s documentation shall include but not be limited to:
   a. Appropriately detailed records of Work performed to enable determination of value of the Work.
   b. Full information required to substantiate resulting change in Contract Times and Contract Price for Work. On request of Engineer, provide additional data necessary to support documentation.
   c. Support data for Work performed on a unit price or Cost of the Work basis with additional information such as:
      1) Dates Work was performed, and by whom.
      2) Time records, wage rates paid, and equipment rental rates.
      3) Invoices and receipts for materials, equipment, and subcontracts, all similarly documented.

B. Effective Date of Work Change Directive: Date of signature by Owner, unless otherwise indicated thereon.
1.04 CHANGE ORDERS

A. Procedure:

1. Engineer will prepare six copies of proposed Change Order and transmit such with Engineer’s written recommendation and request to Contractor for signature.

2. Contractor shall, upon receipt, either: (i) promptly sign copies, retaining one for its file, and return remaining five copies to Engineer for Owner’s signature, or (ii) return unsigned five copies with written justification for not executing Change Order.

3. Engineer will, upon receipt of Contractor signed copies, promptly forward Engineer’s written recommendation and partially executed five copies for Owner’s signature, or if Contractor fails to execute the Change Order, Engineer will promptly so notify Owner and transmit Contractor’s justification to Owner.

4. Upon receipt of Contractor-executed Change Order, Owner will promptly either:
   a. Execute Change Order, retaining one copy for its file and returning four copies to Engineer; or
   b. Return to Engineer unsigned copies with written justification for not executing Change Order.

5. Upon receipt of Owner-executed Change Order, Engineer will transmit two copies to Contractor, one copy to Resident Project Representative or other field representative, and retain one copy, or if Owner fails to execute the Change Order, Engineer will promptly so notify Contractor and transmit Owner’s justification to Contractor.

6. Upon receipt of Owner-executed Change Order, Contractor shall:
   a. Perform Work covered by Change Order.
   b. Revise Schedule of Values to adjust Contract Price and submit with next Application for Payment.
   c. Revise progress schedule to reflect changes in Contract Times, if any, and to adjust times for other items of Work affected by change.
   d. Enter changes in Project record documents after completion of change related Work.

B. In signing a Change Order, Owner and Contractor acknowledge and agree that:

1. Stipulated compensation (Contract Price or Contract Times, or both) set forth includes payment for (i) the Cost of the Work covered by the Change Order, (ii) Contractor’s fee for overhead and profit, (iii) interruption of progress schedule, (iv) delay and impact, including
cumulative impact, on other Work under the Contract Documents, and (v) extended overheads.

2. Change Order constitutes full mutual accord and satisfaction for the change to the Work.

3. Unless otherwise stated in the Change Order, all requirements of the original Contract Documents apply to the Work covered by the Change Order.

1.05 FIELD ORDER

A. Engineer will issue Field Orders, with three copies to Contractor.

B. Effective date of the Field Order shall be the date of signature by Engineer, unless otherwise indicated thereon.

C. Contractor shall acknowledge receipt by signing and returning one copy to Engineer.

D. Field Orders will be incorporated into subsequent Change Orders, as a no-cost change to the Contract.

1.06 REQUEST FOR INTERPRETATION OR CLARIFICATION (RFI/C)

A. Procedures:

1. Contractor: Initiate RFI/C to include at least the information listed below, and transmit to Engineer:
   a. Information requested on RFI/C form provided by Engineer.
   b. Additional information appended thereto, as appropriate.
   c. Contractor's signature and date.
   d. Assigned document tracking reference number.
   e. Requested response date.

2. Engineer, upon receipt of Contractor's written RFI/C, will:
   a. Promptly review request to determine intent of Contract Documents and clarification necessary.
   b. Notify Contractor promptly if unable to meet Contractor's requested response date and indicate a tentative response date.
   c. Prepare written clarification or interpretation.

B. Sign the document and return two copies to Contractor.
PART 2  PRODUCTS (NOT USED)
PART 3  EXECUTION

END OF SECTION
PART 1 GENERAL

1.01 SUBMITTALS

A. Informational Submittals:
   1. Schedule of Values: Submit on Contractor’s standard form.
   2. Schedule of Estimated Progress Payments:
      a. Submit with initially acceptable Schedule of Values.
      b. Submit adjustments thereto with Application for Payment.
   3. Application for Payment.
   4. Final Application for Payment.

1.02 SCHEDULE OF VALUES

A. Upon request of Engineer, provide documentation to support the accuracy of
   the Schedule of Values.

B. Unit Price Work: Reflect unit price quantity and price breakdown from
   conformed Bid Form.

C. Lump Sum Work:
   1. List bonds and insurance premiums, mobilization, demobilization,
      preliminary and detailed progress schedule preparation, equipment
      testing, facility startup, and contract closeout separately.
   2. Break down by Division 2 through 49 for each Project facility.

D. An unbalanced or front-end loaded schedule will not be accepted.

E. Summation of the complete Schedule of Values representing all the Work
   shall equal the Contract Price.

F. Submit Schedule of Values in electronic format, in a spreadsheet format
   compatible with latest version of Excel.

1.03 SCHEDULE OF ESTIMATED PROGRESS PAYMENTS

A. Show estimated payment requests throughout Contract Times aggregating
   initial Contract Price.
B. Base estimated progress payments on initially acceptable progress schedule. Adjust to reflect subsequent adjustments in progress schedule and Contract Price as reflected by modifications to the Contract Documents.

1.04 APPLICATION FOR PAYMENT

A. Applications for payment will not be approved prior to Engineer approval of Contractor quality control (CQC) plan.

B. Transmittal Summary Form: Attach one Summary Form with each detailed Application for Payment for each schedule and include Request for Payment of Materials and Equipment on Hand as applicable. Execute certification by authorized officer of Contractor.

C. Use detailed Application for Payment form suitable to Engineer.

D. Provide separate form for each schedule as applicable.

E. Include accepted Schedule of Values for each schedule or portion of lump sum Work.

F. Include separate line item for each Change Order and Work Change Directive executed prior to date of submission. Provide further breakdown of such as requested by Engineer.

G. Preparation:
   1. Round values to nearest dollar.
   2. Submit Application for Payment, including a Transmittal Summary form and detailed Application for Payment form(s) for each schedule as applicable, a listing of materials on hand for each schedule as applicable, and such supporting data as may be requested by Engineer.

1.05 MEASUREMENT – GENERAL

A. Weighing, measuring, and metering devices used to measure quantity of materials for Work shall be suitable for purpose intended and conform to tolerances and specifications as specified in National Institute of Standards and Technology, Handbook 44.

1.06 PAYMENT

A. Payment for Lump Sum Work covers all Work shown on Drawings and described in the Specifications with the exception of unit price bid items identified herein. Payment will be based on a percentage complete basis for each line item of the accepted Schedule of Values. For the Lump Sum Bid
Item, Bidder agrees to accept as full payment for all Work based upon the bidder’s own estimate of quantities and costs and including sales, consumer, use, and other taxes, and overhead and profit.

1.07 NONPAYMENT FOR REJECTED OR UNUSED PRODUCTS

A. Payment will not be made for following:

1. Loading, hauling, and disposing of rejected material.
2. Quantities of material wasted or disposed of in manner not called for under Contract Documents.
3. Rejected loads of material, including material rejected after it has been placed by reason of failure of Contractor to conform to provisions of Contract Documents.
4. Material not unloaded from transporting vehicle.
5. Defective Work not accepted by Owner.
6. Material remaining on hand after completion of Work.

1.08 PARTIAL PAYMENT FOR STORED MATERIALS AND EQUIPMENT

A. Partial Payment: No partial payments will be made for materials and equipment delivered or stored unless Shop Drawings and preliminary operation and maintenance data is acceptable to Engineer.

B. Final Payment: Will be made only for products incorporated in Work; remaining products, for which partial payments have been made, shall revert to Contractor unless otherwise agreed, and partial payments made for those items will be deducted from final payment.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION
SECTION 01 31 13
PROJECT COORDINATION

PART 1 GENERAL

1.01 USE OF VPA’S ELECTRONIC CONSTRUCTION MANAGEMENT SYSTEM

A. Use of VPA’s designated electronic construction management system for submittals, RFIs, change orders, payment applications and other construction related documentation is required. VPA will provide a set of instructions to the contractor and provide training as required.

1.02 SUBMITTALS

A. Informational Submittals:

1. Documentation of adjacent facilities and properties as required in this section.
2. Submit resumes of all individuals participating in Contractor quality control (CQC) process.

1.03 RELATED WORK AT SITE

A. General:

1. Other work that is either directly or indirectly related to scheduled performance of the Work under these Contract Documents, listed henceforth, is anticipated to be performed at Site by others.
   a. Virginia International Gateway Phase II Expansion – Wharf Extension Package:
      1) Start Date: February 2017.
      2) Estimated Finish Date: December 2019.
   b. Virginia International Gateway Phase II Expansion – Stack Yard Expansion Package:
      1) Start Date: February 2017.
      2) Estimated Finish Date: February 2019.
   c. Virginia International Gateway Phase II Expansion – Rail Yard Expansion Package:
      1) Start Date: February 2017.
      2) Estimated Finish Date: December 2019.

2. Coordinate the Work of these Contract Documents with work of others as specified in General Conditions.

3. Include sequencing constraints specified herein as a part of progress schedule.
1.04 UTILITY NOTIFICATION AND COORDINATION

A. Coordinate the Work with various utilities within Project limits. Notify applicable utilities prior to commencing Work, if damage occurs, or if conflicts or emergencies arise during Work.

1. Port of Virginia:

2. Electricity Company: Dominion Virginia Power.


4. Miss Utility:
   a. Telephone: 800-552-7001.

5. Virginia Natural Gas:

6. Virginia Department of Transportation:

1.05 PROJECT MILESTONES

A. General: Include the Milestones specified herein as a part of the progress schedule required under Section 01 32 00, Construction Progress Documentation.

B. Project Milestones: Generally described in the Agreement Form. The following is a detailed description of each:

1. Provide Substantial Completion of both rail portal monitors, associated traffic lanes, one OCR inbound lane, one OCR outbound lane, and associated equipment by March 31, 2018, inclusive of demolition.

2. Provide Substantial Completion of the in-gate portion of Work by April 30, 2018.


C. Warranty for any equipment or systems installed and placed into continuous service shall commence on a relevant project milestone completion date, in accordance with the General Conditions.

1.06 WORK SEQUENCING/CONSTRAINTS

A. Prior to commencement of Work, all Contractor and Subcontractor employees must attend Port of Virginia’s Safety Briefing. Attendance is mandatory for all Contractor and subcontractor employees.
B. Refer to the progress schedule in accordance with Section 01 32 00, Construction Progress Documentation.

C. Include the following work sequences in the progress schedule:

1. The Contractor shall allow 10 working days for Owner removal of equipment to be salvaged. The Contractor will not be permitted to begin on-site until removal is complete. Contractor shall give 2 weeks’ notice to Owner prior to removal of equipment start date.

2. Contractor must stay within property boundaries and easements at all times.

3. Contractor must stay within area of work as shown on the Drawings. Access outside of the area of work will be not be allowed unless pre-arranged and agreed upon by the Port of Virginia.

D. Detailed Work Sequencing/Constraints:

1. Installation of the RPM and OCR Building is of the utmost importance.

2. Prior to completing foundations, the layout must be approved by Customs and Border Protection (CBP) officials. Provide 4 weeks’ notice of complete of layout so that an inspection may be scheduled. Include all electrical conduit inspections and all CBP hold points.

3. All work on the RPM must be completed prior to start of demolition. Demolition and restoration must be complete within a 14-calendar day window.

4. Contractor shall notify Owner 1 month in advance of planned foundation layout work. CBP requires inspection of the foundation layouts to confirm alignment meets government standards. Contractor shall coordinate this hold-point with Owner. Additionally, CBP is required to be on-site after all equipment is installed, to approve.

1.07 FACILITY OPERATIONS

A. A third-party commissioning contractor will be involved immediately following Substantial Completion of the RPM and OCR area. They will be reinvolved when existing equipment is moved to new location.

B. Continuous operation of Owner’s facilities is of critical importance. Schedule and conduct activities to enable existing facilities to operate continuously, unless otherwise specified. During prebid visit Bidders should become familiar with current operations traffic patterns and plan accordingly.
C. Perform Work continuously during critical connections and changeovers, and as required to prevent interruption of Owner’s operations.

D. When necessary, plan, design, and provide various temporary services, utilities, connections, temporary piping, access, and similar items to maintain continuous operations of Owner’s facility.

E. Do not close lanes, open or close valves, or take other action that would affect the operation, except as specifically required by the Contract Documents and after authorization by Owner and Engineer. Such authorization will be considered within 48 hours after receipt of Contractor’s written request.

F. Do not proceed with Work affecting a facility’s operation without obtaining Owner’s and Engineer’s advance approval of the need for and duration of such Work.

G. Relocation of Existing Facilities:
   1. During construction, it is expected that minor relocations of Work will be necessary.
   2. Provide complete relocation of existing structures and underground facilities, including piping, utilities, equipment, structures, electrical conduit wiring, electrical duct bank, and other necessary items.
   3. Use only new materials for relocated facility. Match materials of existing facility, unless otherwise shown or specified.
   4. Perform relocations to minimize downtime of existing facilities.
   5. Install new portions of existing facilities in their relocated position prior to removal of existing facilities, unless otherwise accepted by Engineer.

1.08 CONTRACTOR SECURITY, SAFETY, HEALTH, AND ENVIRONMENTAL REQUIREMENTS

A. The Contractor shall fully comply with all applicable security, safety, health and environmental requirements now in force and as amended from time to time while upon any restricted area and/or operational area owned by the Port of Virginia. Failure to comply may result in termination of the contract and removal of the Contractor.

B. Site Access:
   1. The project is inside the restricted and secured perimeter of the terminal.
   2. All workers must enter through the designated security gate prior to beginning work each day, including water-borne equipment personnel.
   3. Enter and exit site through location shown on the Drawings.
4. Access to dock, container stack, and terminal is restricted. Contractor shall remain with designated access roadways, work area, and lay-down areas.

5. The Contractor shall notify Port Police not less than 24 hours prior to delivery of material and equipment.

6. Speed limit is 20 mph. Follow designated traffic patterns. Passing of moving vehicles is prohibited. Yield right of way to Port equipment.

7. Pedestrian or bicycle access to the site is prohibited.

8. Park vehicles only in areas designated or approved by the Port.

9. Entering the terminal implies consent to CCTV monitoring/security screening.

10. The Port of Virginia may issue written warning and fines, and/or temporarily or permanently suspend right of entry to personnel in violation of these requirements.

11. The term restricted area and/or operational area shall be defined as any area inside any Port of Virginia gate and on any Port of Virginia terminal not totally under the control of the Contractor, including the water area of the terminal.

12. The term “Contractor” as used throughout this document shall be defined to be the person or firm under contract with The Port of Virginia and all of its employees, agents, subcontractors, and on-site vendors.

C. Credentialing:

1. Any work being performed within the secured perimeter of the terminal shall require the Contractor’s onsite employees and its onsite subcontractors and suppliers to be credentialed as follows:
   a. TWIC: Port of Virginia’s credentialing program.
   b. Obtain gate passes for all material and equipment entering and exiting site.

2. The cost for obtaining credentials is the responsibility of the Contractor.

3. The Port of Virginia will not provide security escorts for the execution of the Work. Contractor shall provide detailed schedules at least 2 weeks in advance for planning purposes.

D. Health and Safety:

1. Contractor is responsible for the safety and health of its employees, agents, subcontractors and on site vendors. A copy of the Contractor’s Project-specific environmental, safety and health plan (ESHP) shall be maintained on site and with the terminal Port Police.

2. Contractor shall fully comply with all applicable local, state, and/or federal rules, regulations, codes, ordinances, and/or laws including, but
not limited to, any applicable environmental, OSHA, U.S. Coast Guard, NFPA, and ANSI Standards.

3. All cars, trucks, mobile equipment, and other construction vehicles shall have an operating “amber” flashing light mounted on top of the vehicle or, must use the vehicles emergency flashers while traveling upon Port of Virginia property. All vehicles on terminal must be placarded on both sides.

4. Contractor shall notify the Port Police Department and the appropriate regulatory agencies immediately of any and all spills of a hazardous substance. The Contractor shall be responsible for all costs incurred in relation to any release, cleanup and/or disposal of a hazardous substance.

5. All Contractor personnel shall use appropriate personal protective equipment (PPE) when on terminal. As a minimum the following shall be used:
   a. Hard hat, full brim or cap style.
   b. Safety glasses, impact resistant lens and side shield.
   c. High Visibility Safety Apparel: Vest, Class 2, day work and Class 3, night work.
   d. Protective footwear, leather or like-leather material that protects the ankle, and contains a safety toe, suitable for use in construction environments.
   e. Hearing protection, where noise is measured above 85 dB.
   f. Gloves.
   g. Fall arrest/restraint equipment, where exposed to potential falls of 6 feet or more.
   h. Life jacket, U.S. Coast Guard approved, when with 6 feet of water edge.

6. Contractor shall provide and maintain on site appropriate first aid equipment, fire extinguishers, and life rings.

7. Seat belt use when in moving vehicle is mandatory.

8. Use of cell phones or other personal electronic device while operating a moving vehicle is prohibited.

9. Smoking and E-cigarette use allowed only in approved designated areas.

10. Contractor shall ensure that all work areas are properly barricaded and/or guarded.

11. The Contractor shall provide to the Owner, Port Police, and the Engineer a primary and secondary contact name, telephone number, and email for the below personnel, available 24 hours/day, 7 days/week.
   a. Project manager.
   b. Health and safety manager.
   c. Site superintendent.
   d. Environmental manager.
12. All accidents, injuries, fires, or any incident requiring physician’s care or emergency response must be reported immediately to the Port of Virginia Port Police.

13. Contractor shall report any suspicious activity to Port Police immediately.

E. Environmental:

1. No welding, burning, cutting, or other spark- or flame-producing operation will be permitted until:
   a. Written approval obtained from the Port.
   b. A fire-safe area established.
   c. Appropriate fire extinguisher provided at work area.

2. Immediately report spill of any amount of chemical, oil, gasoline, or other potential harmful product to Port Police.
   a. Immediately confine spill to limit distribution.
   b. Cleanup shall only be performed by trained personnel.
   c. Contractor shall be responsible for all costs related to the cleanup and disposal of spill materials and supplies used.

3. Perform work in manner that minimizes generation of dust and debris.

4. Material shall not be dropped or disposed of in the water or marshlands.

5. No burning of materials will be allowed on site.

6. Contractor shall properly dispose of trash and waste off-site.

7. Site shall be kept in a clean and orderly manner. Sweep site of dust and debris as required.

F. Port of Virginia Emergency and Contact Numbers:

1. Emergency:

2. Virginia International Gateway:

3. Nearest Hospitals:
   Mon Secours Maryview Medical Center
   3636 High Street
   Portsmouth, VA 23707
   757-398-2200

   Ben Secours Harbor View
   5818 Harbor View Boulevard
   Suffolk, VA 23435
   757-673-5800
1.09 ADJACENT FACILITIES AND PROPERTIES

A. Examination:

1. After Effective Date of the Agreement and before Work at Site is started, Contractor, Engineer, and affected property owners and utility owners shall make a thorough examination of pre-existing conditions including existing buildings, structures, and other improvements in vicinity of Work, as applicable, which could be damaged by construction operations.

2. Periodic reexamination shall be jointly performed to include, but not limited to, cracks in structures, settlement, leakage, and similar conditions.

B. Documentation:

1. Record and submit documentation of observations made on examination inspections in accordance with Article, Construction Photographs in Section 01 32 00, Construction Progress Documentation.

2. Upon receipt, Engineer will review, sign, and return one record copy of documentation to Contractor to be kept on file.

3. Such documentation shall be used as indisputable evidence in ascertaining whether and to what extent damage occurred as a result of Contractor’s operations, and is for the protection of adjacent property owners, Contractor, and Owner.

1.10 REFERENCE POINTS AND SURVEYS

A. Location and elevation of benchmarks are shown on Drawings.

B. Contractor’s Responsibilities:

1. Check and establish exact location and dimensions of existing facilities prior to construction of new facilities and any connections thereto.

2. In event of discrepancy in data, request clarification before proceeding with Work.

3. Retain professional land surveyor or civil engineer registered in the Commonwealth of Virginia, who shall perform or supervise engineering surveying necessary for additional construction staking and layout.

4. Maintain complete accurate log of survey Work as it progresses as a Record Document.

5. On request of Engineer, submit documentation.
6. Provide competent employee(s), tools, stakes, and other equipment and materials as Engineer may require to:
   a. Establish control points, lines, and easement boundaries.
   b. Check layout, survey, and measurement Work performed by others.
   c. Measure quantities for payment purposes.

PART 2 PRODUCTS (NOT USED)
PART 3 EXECUTION (NOT USED)

END OF SECTION
PART 1 GENERAL

1.01 GENERAL

A. Engineer will schedule physical arrangements for meetings throughout progress of the Work, prepare meeting agenda with regular participant input and distribute with written notice of each meeting, preside at meetings, record minutes to include significant proceedings and decisions, and reproduce and distribute copies of minutes within 5 working days after each meeting to participants and parties affected by meeting decisions.

1.02 PRECONSTRUCTION CONFERENCE

A. Contractor shall be prepared to discuss the following subjects, as a minimum:

1. Required schedules.
2. Status of bonds and insurance.
3. Sequencing of critical path work items.
4. Progress payment procedures.
5. Project changes and clarification procedures.
6. Use of site, access, office and storage areas, security and temporary facilities.
7. Major product delivery and priorities.
8. Contractor’s safety plan and representative.

B. Attendees will include:

1. Owner’s representatives.
2. Contractor’s office representative.
3. Contractor’s resident superintendent.
4. Contractor’s quality control representative.
5. Subcontractors’ representatives whom Contractor may desire or Engineer may request to attend.
6. Engineer’s representatives.
7. Others as appropriate.

1.03 PRELIMINARY SCHEDULES REVIEW MEETING

A. As set forth in General Conditions and Section 01 32 00, Construction Progress Documentation.
1.04 PROGRESS MEETINGS

A. Engineer will schedule regular monthly progress meetings to review the Work progress, progress schedule, schedule of submittals, Application for Payment, contract modifications, and other matters needing discussion and resolution.

B. Attendees will include:
   1. Owner’s representative(s), as appropriate.
   2. Contractor, subcontractors, and suppliers, as appropriate.
   3. Engineer’s representative(s).
   4. Others as appropriate.

1.05 PREINSTALLATION MEETINGS

A. When required in individual Specification sections, convene prior to commencing the Work of that section.

B. Require attendance of entities directly affecting, or affected by, the Work of that section.

C. Notify Engineer 5 days in advance of meeting date.

D. Provide suggested agenda to Engineer to include reviewing conditions of installation, preparation and installation or application procedures, and coordination with related Work and work of others.

1.06 TESTING MEETINGS

A. Schedule and attend facility testing meetings as required.

B. Agenda items shall include, but not be limited to, content of facility startup plan, coordination needed between various parties in attendance and potential problems associated with startup.

C. Attendees will include:
   1. Contractor.
   2. Subcontractors and equipment manufacturer’s representatives whom Contractor deems to be directly involved in facility startup.
   3. Engineer’s representatives.
   4. Owner’s operations personnel.
   5. Others as required by Contract Documents or as deemed necessary by Contractor.
1.07 OTHER MEETINGS

A. In accordance with Contract Documents and as may be required by Owner and Engineer.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION
PART 1     GENERAL

1.01     SUBMITTALS

A.     Informational Submittals:

1. Photographs: As required in this section.
2. Preliminary Progress Schedule: Submit at least 7 days prior to preconstruction conference.
3. Detailed Progress Schedule:
   a. Submit initial detailed progress schedule within 20 days after Notice to Proceed (NTP).
   b. Submit approved progress schedule 30 days after NTP.
   c. Submit with each progress payment application an updated progress schedule at each update, in accordance with Article Detailed Progress Schedule.
4. Submit with Each Progress Schedule Submission:
   a. Contractor’s certification that progress schedule submission is actual schedule being used for execution of the Work.
   b. Disk file compatible with latest version of Project.
   c. Progress Schedule: One legible copy.
   d. Narrative Progress Report: Same number of copies as specified for progress schedule.
5. Prior to final payment, submit a final updated progress schedule.

1.02 DETAILED PROGRESS SCHEDULE

A. In addition to basic requirements outlined in General Conditions, show a detailed schedule, beginning with Notice to Proceed, for the entire duration of the project, and a summary of balance of Project through Final Completion.

B. Show activities including, but not limited to the following:

1. Notice to Proceed.
2. Permits.
3. Submittals, with review time. Contractor may use Schedule of Submittals specified in Section 01 33 00, Submittal Procedures.
4. Early procurement activities for long lead equipment and materials.
5. Initial Site work.
6. Specified Work sequences and construction constraints, including those of adjacent construction activities.
7. Contract milestone and completion dates.
8. Major structural, mechanical and equipment Work.
10. Demobilization summary.

C. Update progress schedule monthly as part of progress payment process. Failure to do so may result in the Owner withholding all or part of the monthly progress payment until the progress schedule is updated in a manner acceptable to Engineer.

D. Format: In accordance with Article Progress Schedule—Critical Path Network.

1.03 PROGRESS SCHEDULE—CRITICAL PATH NETWORK

A. General: Comprehensive computer-generated schedule using CPM, generally as outlined in Associated General Contractors of America (AGC) 580, “Construction Project Planning and Scheduling Guidelines.” If a conflict occurs between the AGC publication and this Specification, this Specification shall govern.

B. Contents:

1. Schedule shall begin with the date of Notice to Proceed and conclude with the date of Final Completion.
2. Identify Work calendar basis using days as a unit of measure.
3. Show complete interdependence and sequence of construction and Project-related activities reasonably required to complete the Work.
4. Identify the Work of separate stages and other logically grouped activities, and clearly identify critical path of activities.
5. Reflect sequences of the Work, restraints, delivery windows, review times, Contract Times and Project Milestones set forth in the Agreement and Section 01 31 13, Project Coordination.
6. Include as applicable, at a minimum:
   a. Obtaining permits, submittals for early product procurement, and long lead time items.
   b. Mobilization and other preliminary activities.
   c. Initial site work.
   d. Specified work sequences, constraints, and milestones, including substantial completion date(s) subcontract work.
   e. Major equipment design, fabrication, factory testing, and delivery dates.
   f. Delivery dates for Owner-furnished products.
   g. Sitework.
   h. Concrete work.
i. Structural steel work.

j. Equipment work.

k. Mechanical work.

l. Electrical work.

m. Interfaces with Owner-furnished equipment.

n. Equipment and system startup test activities.

o. Project closeout and cleanup.

p. Demobilization.

7. No activity duration, exclusive of those for Submittals review and product fabrication/delivery, shall be less than 1 day or more than 30 days, unless otherwise approved.

8. Activity duration for Submittal review shall not be less than review time specified unless clearly identified and prior written acceptance has been obtained from Engineer.

C. Network Graphical Display:

1. Plot or print on paper not greater than 22 inches by 34 inches, unless otherwise approved.

2. Title Block: Show name of Project, Owner, date submitted, revision or update number, and the name of the scheduler. Updated schedules shall indicate data date.

3. Identify horizontally across top of schedule the time frame by year, month, and day.

4. Identify each activity with a unique number and a brief description of the Work associated with that activity.

5. Indicate the critical path.

6. Show, at a minimum, the controlling relationships between activities.

7. Plot activities on a time-scaled basis, with the length of each activity proportional to the current estimate of the duration.

8. Plot activities on an early start basis unless otherwise requested by Engineer.

9. Provide a legend to describe standard and special symbols used.

D. Schedule Report:

1. On 8-1/2-inch by 11-inch white paper, unless otherwise approved.

2. List information for each activity in tabular format, including at a minimum:
   a. Activity identification number.
   b. Activity description.
   c. Original duration.
   d. Remaining duration.
   e. Early start date (actual start on updated progress schedules).
f. Early finish date (actual finish on updated progress schedules).
g. Late start date.
h. Late finish date.
i. Total float.

3. Sort reports, in ascending order, as listed below:
a. Activity number sequence with predecessor and successor activity.

1.04 PROGRESS OF THE WORK

A. Updated progress schedule shall reflect:
   1. Progress of Work to within 5 working days prior to submission.
   2. Approved changes in Work scope and activities modified since submission.
   3. Delays in submittals or resubmittals, deliveries, or Work.
   4. Adjusted or modified sequences of Work.
   5. Other identifiable changes.
   6. Revised projections of progress and completion.

B. Produce detailed subschedules during Project, upon request of Owner or Engineer, to further define critical portions of the Work such as facility shutdowns.

C. If Contractor fails to complete activity by its latest scheduled completion date and this Failure is anticipated to extend Contract Times (or milestones), Contractor shall, within 7 days of such failure, submit a written statement as to how Contractor intends to correct nonperformance and return to acceptable current progress schedule. Actions by Contractor to complete the Work within Contract Times (or milestones) will not be justification for adjustment to Contract Price or Contract Times.

D. Owner may require Contractor to increase equipment, labor force, or working hours if Contractor fails to:
   1. Complete a milestone activity by its completion date.
   2. Satisfactorily execute Work as necessary to prevent delay to overall completion of Project, at no additional cost to Owner.

E. Contractor must provide the Owner a weekly forecast of upcoming work.
1.05 NARRATIVE PROGRESS REPORT

A. Format:
   1. Organize same as progress schedule.
   2. Identify, on a cover letter, reporting period, date submitted, and name of author of report.

B. Contents:
   1. Number of days worked over the period, work force on hand, construction equipment on hand (including utility vehicles such as pickup trucks, maintenance vehicles, stake trucks).
   2. General progress of Work, including a listing of activities started and completed over the reporting period, mobilization/demobilization of subcontractors, and major milestones achieved.
   3. Contractor’s plan for management of Site (e.g., lay down and staging areas, construction traffic), utilization of construction equipment, buildup of trade labor, and identification of potential Contract changes.
   4. Identification of new activities and sequences as a result of executed Contract changes.
   5. Documentation of weather conditions over the reporting period, and any resulting impacts to the work.
   6. Description of actual or potential delays, including related causes, and the steps taken or anticipated to mitigate their impact.
   7. Changes to activity logic.
   8. Changes to the critical path.
   9. Identification of, and accompanying reason for, any activities added or deleted since the last report.
   10. Steps taken to recover the schedule if behind.

1.06 SCHEDULE ACCEPTANCE

A. Engineer’s acceptance will demonstrate agreement that:

   1. Proposed schedule is accepted with respect to:
      a. Contract Times, including Final Completion and all intermediate milestones are within the specified times.
      b. Specified Work sequences and constraints are shown as specified.
      c. Specified Owner-furnished equipment or material arrival dates, or range of dates, are included.
      d. Access restrictions are accurately reflected.
      e. Startup and testing times are as specified.
      f. Submittal review times are as specified.
      g. Startup testing duration is as specified and timing is acceptable.
2. In all other respects, Engineer’s acceptance of Contractor’s schedule indicates that, in Engineer’s judgment, schedule represents reasonable plan for constructing Project in accordance with the Contract Documents. Engineer’s review will not make any change in Contract requirements. Lack of comment on any aspect of schedule that is not in accordance with the Contract Documents will not thereby indicate acceptance of that change, unless Contractor has explicitly called the nonconformance to Engineer’s attention in submittal. Schedule remains Contractor’s responsibility and Contractor retains responsibility for performing all activities, for activity durations, and for activity sequences required to construct Project in accordance with the Contract Documents.

B. Unacceptable Detailed Progress Schedule:

1. Make requested corrections; resubmit within 10 days.
2. Until acceptable to Engineer as baseline progress schedule, continue review and revision process, during which the Contractor shall update schedule on a monthly basis to reflect actual progress and occurrences to date.

C. Narrative Report: All changes to activity duration and sequences, including addition or deletion of activities subsequent to Engineer’s acceptance of baseline progress schedule, shall be delineated in narrative report current with proposed updated progress schedule.

1.07 ADJUSTMENT OF CONTRACT TIMES

A. Reference General Conditions and Section 01 26 00, Contract Modification Procedures.

B. Evaluation and reconciliation of Adjustments of Contract Times shall be based on the updated progress schedule at the time of proposed adjustment or claimed delay.

C. Float:

1. Float time is a Project resource available to both parties to meet contract milestones and Contract Times.
2. Use of float suppression techniques such as preferential sequencing or logic, special lead/lag logic restraints, and extended activity times are prohibited, and use of float time disclosed or implied by use of alternate float-suppression techniques shall be shared to proportionate benefit of Owner and Contractor.
3. Pursuant to above float-sharing requirement, no time extensions will be granted nor delay damages paid until a delay occurs which (i) impacts Project's critical path, (ii) consumes available float or contingency time, and (iii) extends Work beyond contract completion date.

D. Claims Based on Contract Times:

1. Where Engineer has not yet rendered formal decision on Contractor’s claim for adjustment of Contract Times, and parties are unable to agree as to amount of adjustment to be reflected in progress schedule, Contractor shall reflect an interim adjustment in the progress schedule as acceptable to Engineer.

2. It is understood and agreed that such interim acceptance will not be binding on either Contractor or Owner, and will be made only for the purpose of continuing to schedule Work until such time as formal decision has been rendered as to an adjustment, if any, of the Contract Times.

3. Contractor shall revise progress schedule prepared thereafter in accordance with Engineer’s formal decision.

1.08 CONSTRUCTION PHOTOGRAPHS

A. Photographically document all phases of the project including preconstruction, construction progress, and post-construction.

B. Photographs shall be by a professional commercial photographer, experienced in shooting construction photos in daylight and night-time conditions, and in good and inclement weather.

C. Engineer shall have the right to select the subject matter and vantage point from which photographs are to be taken.

D. Preconstruction and Post-Construction:

1. After Effective Date of the Agreement and before Work at Site is started, and again upon issuance of Substantial Completion, take a minimum of 48 exposures of each construction Site and property adjacent to perimeter of construction Site.

2. Particular emphasis shall be directed to structures both inside and outside the Site.

E. Construction Progress Photos:

1. Photographically demonstrate progress of construction, showing every aspect of Site and adjacent properties as well as interior and exterior of new or impacted structures.
3. Monthly: Take 50 exposures digital, minimum resolution of 12 MB, in color. Contractor shall also provide monthly aerial photos of the Site including electronic files furnished on CD or DVD disc along with two 16- by 20-inch mounted prints. Views shall be as selected by the Owner.

F. Digital Images:

1. Include date stamp on all digital photographs.
2. Label each disk with Project and Owner’s name, and week and year images were produced.

1.09 AUDIO-VIDEO RECORDINGS

A. Prior to beginning Work on Construction Site or of a particular area of the Work, and again within 10 days following date of Substantial Completion, videograph Construction Site and property adjacent to Construction Site.

B. In the case of preconstruction recording, no Work shall begin in the area prior to Engineer's review and approval of content and quality of video for that area.

C. Particular emphasis shall be directed to physical condition of existing vegetation, structures, and pavements within limits of disturbance and areas adjacent to and within the right-of-way or easement, and on Contractor storage and staging areas.

D. Engineer shall have right to select subject matter and vantage point from which videos are to be taken.

E. Videotaping shall be by a professional commercial videographer, experienced in shooting construction videos, in both good and inclement weather.

F. Video Format and Quality:

1. Digital video with sound.
2. Video:
   a. Produce bright, sharp, and clear images with accurate colors, free of distortion and other forms of picture imperfections.
b. Electronically, and accurately display the month, day, year, and time of day of the recording.

3. Audio:
   a. Audio documentation shall be done clearly, precisely, and at a moderate pace.
   b. Indicate date, project name, and a brief description of the location of taping, including:
      1) Facility name.
      2) Street names or easements.
      3) Addresses of private property.
      4) Direction of coverage, including engineering stationing, if applicable.

G. Documentation:

1. Video Tape Label:
   a. Tape number (numbered sequentially, beginning with 001).
   b. Project name.
   c. Name of street(s) or easement(s) included.
   d. Date and time of coverage.

2. Project Video Log: Maintain an ongoing log that incorporates above noted label information for videotapes on Project.

3. Furnish CD or DVD copy in a MPEG file format.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION
SECTION 01 33 00
SUBMITTAL PROCEDURES

PART 1       GENERAL

1.01   DEFINITIONS

A.  Action Submittal: Written and graphic information submitted by Contractor that requires Engineer’s approval.

B.  Informational Submittal: Information submitted by Contractor that requires Engineer’s review and determination that submitted information is in accordance with the Conditions of the Contract.

1.02   PROCEDURES

A.  Direct submittals to Engineer at the following, unless specified otherwise.

1.  CH2M
    11818 Rock Landing Drive
    Suite 200
    Newport News, VA 23606
    Attn: Zachary Canody, P.E.
    zcanody@ch2m.com

2.  Provide a copy to: Virginia International Terminals, LLC
    1000 Virginia International Gateway Blvd.
    Portsmouth, VA 23703
    Attn: Michael Petty
    mpetty@vit.org

B.  Transmittal of Submittal:

1.  Contractor shall:
    a.  Review each submittal and check for compliance with Contract Documents.
    b.  Stamp each submittal with uniform approval stamp before submitting to Engineer.
    1)  Stamp to include Project name, submittal number, Specification number, Contractor’s reviewer name, date of Contractor’s approval, and statement certifying submittal has been reviewed, checked, and approved for compliance with Contract Documents.
    2)  Engineer will not review submittals that do not bear Contractor’s approval stamp and will return them without action.
2. Complete, sign, and transmit with each submittal package, one Transmittal of Contractor’s Submittal form attached at end of this section.

3. Identify each submittal with the following:
   a. Numbering and Tracking System:
      1) Sequentially number each submittal.
      2) Resubmission of submittal shall have original number with sequential alphabetic suffix.
   b. Specification section and paragraph to which submittal applies.
   c. Project title and Engineer’s project number.
   d. Date of transmittal.
   e. Names of Contractor, subcontractor or supplier, and manufacturer as appropriate.

4. Identify and describe each deviation or variation from Contract Documents.

C. Format:
   1. Do not base Shop Drawings on reproductions of Contract Documents.
   2. Package submittal information by individual specification section. Do not combine different specification sections together in submittal package, unless otherwise directed in specification.
   3. Present in a clear and thorough manner and in sufficient detail to show kind, size, arrangement, and function of components, materials, and devices, and compliance with Contract Documents.
   4. Index with labeled tab dividers in orderly manner.
   5. Electronic Media Format:
      a. Portable Document Format (PDF):
         1) Provide submittal data in PDF format.
         2) Files to be exact duplicates of paper copies. Identify files by submittal number and name.
         3) Files to be fully functional and viewable on most recent version of Adobe Acrobat.

D. Timeliness: Schedule and submit in accordance with the Schedule of Submittals, and requirements of individual specification sections.

E. Processing Time:
   1. Time for review shall commence on Engineer’s receipt of submittal.
   2. Engineer will act upon Contractor’s submittal and transmit response to Contractor not later than 20 working days after receipt, unless otherwise specified.
   3. Resubmittals will be subject to same review time.
   4. No adjustment of Contract Times or Price will be allowed as a result of delays in progress of Work caused by rejection and subsequent resubmittals.
F. Resubmittals: Clearly identify each correction or change made.

G. Incomplete Submittals:
   1. Engineer will return entire submittal for Contractor’s revision if preliminary review deems it incomplete.
   2. When any of the following are missing, submittal will be deemed incomplete:
      a. Contractor’s review stamp; completed and signed.
      b. Transmittal of Contractor’s Submittal; completed and signed.
      c. Insufficient number of copies.

H. Submittals not required by Contract Documents:
   1. Will not be reviewed and will be returned stamped “Not Subject to Review.”
   2. Engineer will keep one copy and return submittal to Contractor.

1.03 ACTION SUBMITTALS

A. Prepare and submit Action Submittals required by individual specification sections.

B. Shop Drawings:
   2. Identify and Indicate:
      a. Applicable Contract Drawing and Detail number, products, units and assemblies, and system or equipment identification or tag numbers.
      b. Equipment and Component Title: Identical to title shown on Drawings.
      c. Critical field dimensions and relationships to other critical features of Work. Note dimensions established by field measurement.
      d. Project-specific information drawn accurately to scale.
   3. Manufacturer’s standard schematic drawings and diagrams as follows:
      a. Modify to delete information that is not applicable to the Work.
      b. Supplement standard information to provide information specifically applicable to the Work.
   4. Product Data: Provide as specified in individual specifications.
   5. Foreign Manufacturers: When proposed, include names and addresses of at least two companies that maintain technical service representatives close to Project.
C. Samples:

1. Copies: Two, unless otherwise specified in individual specifications.
2. Preparation: Mount, display, or package samples in manner specified to facilitate review of quality. Attach label on unexposed side that includes the following:
   a. Manufacturer name.
   b. Model number.
   c. Material.
   d. Sample source.
3. Manufacturer’s Color Chart: Units or sections of units showing full range of colors, textures, and patterns available.
4. Full-size Samples:
   a. Size as indicated in individual specification section.
   b. Prepared from same materials to be used for the Work.
   c. Cured and finished in manner specified.
   d. Physically identical with product proposed for use.

D. Action Submittal Dispositions: Engineer will review, comment, stamp, and distribute as noted:

1. Approved:
   a. Contractor may incorporate product(s) or implement Work covered by submittal.
   b. Distribution:
      1) One hard copy and one electronic copy furnished to Owner.
      2) One copy furnished to Resident Project Representative.
      3) One copy retained in Engineer’s file.
2. Approved as Noted:
   a. Contractor may incorporate product(s) or implement Work covered by submittal, in accordance with Engineer’s notations.
   b. Distribution:
      1) One hard copy and one electronic copy furnished to Owner.
      2) One copy furnished to Resident Project Representative.
      3) One copy retained in Engineer’s file.
3. Partial Approval, Resubmit as Noted:
   a. Make corrections or obtain missing portions, and resubmit.
   b. Except for portions indicated, Contractor may begin to incorporate product(s) or implement Work covered by submittal, in accordance with Engineer’s notations.
   c. Distribution: One electronic copy furnished to Owner.
4. Revise and Resubmit:
   a. Contractor may not incorporate product(s) or implement Work covered by submittal.
   b. Distribution: One electronic copy furnished to Owner.

1.04 INFORMATIONAL SUBMITTALS

A. General:

1. Copies: Submit two hard copies and one electronic copy, unless otherwise indicated in individual specification section.
2. Refer to individual specification sections for specific submittal requirements.
3. Engineer will review each submittal. If submittal meets conditions of the Contract, Engineer will forward copy to appropriate parties. If Engineer determines submittal does not meet conditions of the Contract and is therefore considered unacceptable, Engineer will retain one copy and return remaining copy with review comments to Contractor, and require that submittal be corrected and resubmitted.

B. Certificates:

1. General:
   a. Provide notarized statement that includes signature of entity responsible for preparing certification.
   b. Signed by officer or other individual authorized to sign documents on behalf of that entity.
2. Welding: In accordance with individual specification sections.
3. Installer: Prepare written statements on manufacturer’s letterhead certifying installer complies with requirements as specified in individual specification section.
4. Material Test: Prepared by qualified testing agency, on testing agency’s standard form, indicating and interpreting test results of material for compliance with requirements.
5. Certificates of Successful Testing or Inspection: Submit when testing or inspection is required by Laws and Regulations or governing agency or specified in individual specification sections.

C. Construction Photographs: In accordance with Section 01 32 00, Construction Progress Documentation, and as may otherwise be required in Contract Documents.
D. Closeout Submittals: In accordance with Section 01 77 00, Closeout Procedures.

E. Contractor-design Data (related to temporary construction):

1. Written and graphic information.
2. List of assumptions.
3. List of performance and design criteria.
4. Summary of loads or load diagram, if applicable.
5. Calculations.
6. List of applicable codes and regulations.
7. Name and version of software.
8. Information requested in individual specification section.

F. Manufacturer’s Instructions: Written or published information that documents manufacturer’s recommendations, guidelines, and procedures in accordance with individual specification section.

G. Operation and Maintenance Data: As required in Section 01 78 23, Operation and Maintenance Data.

H. Schedules:

1. Schedule of Submittals: Prepare separately or in combination with Progress Schedule as specified in Section 01 32 00, Construction Progress Documentation.
   a. Show for each, at a minimum, the following:
      1) Specification section number.
      2) Identification by numbering and tracking system as specified under Paragraph Transmittal of Submittal.
      3) Estimated date of submission to Engineer, including reviewing and processing time.
   b. On a monthly basis, submit updated Schedule of Submittals to Engineer if changes have occurred or resubmittals are required.

2. Schedule of Values: In accordance with Section 01 29 00, Payment Procedures.

3. Schedule of Estimated Progress Payments: In accordance with Section 01 29 00, Payment Procedures.

4. Progress Schedules: In accordance with Section 01 32 00, Construction Progress Documentation.
I. Special Guarantee: Supplier’s written guarantee as required in individual specification sections.

J. Statement of Qualification: Evidence of qualification, certification, or registration as required in Contract Documents to verify qualifications of professional land surveyor, engineer, materials testing laboratory, specialty subcontractor, trade, specialist, consultant, installer, and other professionals.

K. Submittals Required by Laws, Regulations, and Governing Agencies:

1. Promptly submit notifications, reports, certifications, payrolls, and otherwise as may be required, directly to the applicable federal, state, or local governing agency or their representative.
2. Transmit to Engineer for Owner’s records one copy of correspondence and transmittals (to include enclosures and attachments) between Contractor and governing agency.

L. Test, Evaluation, and Inspection Reports:

1. General: Shall contain signature of person responsible for test or report.
2. Factory:  
a. Identification of product and specification section, type of inspection or test with referenced standard or code.
   b. Date of test, Project title and number, and name and signature of authorized person.
   c. Test results.
   d. If test or inspection deems material or equipment not in compliance with Contract Documents, identify corrective action necessary to bring into compliance.
   e. Provide interpretation of test results, when requested by Engineer.
   f. Other items as identified in individual specification sections.
3. Field:  
a. As a minimum, include the following:  
   1) Project title and number.
   2) Date and time.
   3) Record of temperature and weather conditions.
   4) Identification of product and specification section.
   5) Type and location of test, sample, or inspection, including referenced standard or code.
   6) Date issued, testing laboratory name, address, and telephone number, and name and signature of laboratory inspector.
7) If test or inspection deems material or equipment not in compliance with Contract Documents, identify corrective action necessary to bring into compliance.

8) Provide interpretation of test results, when requested by Engineer.

9) Other items as identified in individual specification sections.

1.05 SUPPLEMENTS

A. The supplement listed below, following “End of Section,” is part of this specification.

1. Transmittal of Contractor’s Submittal Form.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION
TRANSMITTAL OF CONTRACTOR’S SUBMITTAL
(ATTACH TO EACH SUBMITTAL)

| TO: _______________________________| Submittal No.: _______________________________
| _______________________________ | ☐ New Submittal ☐ Resubmittal |
| _______________________________ | Project: _______________________________ |
| _______________________________ | Project No.: _______________________________ |
| _______________________________ | Specification Section No.: _______________________________ |

(Cover only one section with each transmittal)

| FROM: _______________________________ |
| Contractor |

| Schedule Date of Submittal: _______________________________ |

| SUBMITTAL TYPE: ☐ Shop Drawing ☐ Sample ☐ Informational |
| ☐ Deferred |

The following items are hereby submitted:

<table>
<thead>
<tr>
<th>Number of Copies</th>
<th>Description of Item Submitted (Type, Size, Model Number, Etc.)</th>
<th>Spec. and Para. No.</th>
<th>Drawing or Brochure Number</th>
<th>Contains Variation to Contract</th>
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</tbody>
</table>

Contractor hereby certifies that (i) Contractor has complied with the requirements of Contract Documents in preparation, review, and submission of designated Submittal and (ii) the Submittal is complete and in accordance with the Contract Documents and requirements of laws and regulations and governing agencies.

By: _______________________________
Contractor (Authorized Signature)
PART 1 GENERAL

1.01 REFERENCE TO STANDARDS AND SPECIFICATIONS OF TECHNICAL SOCIETIES

A. Reference to standards and specifications of technical societies and reporting and resolving discrepancies associated therewith shall be as provided in Article 3 of the General Conditions, and as may otherwise be required herein and in the individual Specification sections.

B. Work specified by reference to published standard or specification of government agency, technical association, trade association, professional society or institute, testing agency, or other organization shall meet requirements or surpass minimum standards of quality for materials and workmanship established by designated standard or specification.

C. Where so specified, products or workmanship shall also meet or exceed additional prescriptive or performance requirements included within Contract Documents to establish a higher or more stringent standard of quality than required by referenced standard.

D. Where two or more standards are specified to establish quality, product and workmanship shall meet or exceed requirements of most stringent.

E. Where both a standard and a brand name are specified for a product in Contract Documents, proprietary product named shall meet or exceed requirements of specified reference standard.

F. Copies of standards and specifications of technical societies:
   1. Copies of applicable referenced standards have not been bound in these Contract Documents.
   2. Where copies of standards are needed by Contractor, obtain a copy or copies directly from publication source and maintain in an orderly manner at the Site as Work Site records, available to Contractor’s personnel, Subcontractors, Owner, and Engineer.
1.02 ABBREVIATIONS

A. Abbreviations for trade organizations and government agencies: Following is a list of construction industry organizations and government agencies to which references may be made in the Contract Documents, with abbreviations used.

1. AA  Aluminum Association
2. AABC  Associated Air Balance Council
3. AAMA  American Architectural Manufacturers Association
4. AASHTO  American Association of State Highway and Transportation Officials
5. ABMA  American Bearing Manufacturers’ Association
6. ACI  American Concrete Institute
7. AEIC  Association of Edison Illuminating Companies
8. AGA  American Gas Association
9. AGMA  American Gear Manufacturers’ Association
10. AI  Asphalt Institute
11. AISC  American Institute of Steel Construction
12. AISI  American Iron and Steel Institute
13. AITC  American Institute of Timber Construction
14. ALS  American Lumber Standards
15. AMCA  Air Movement and Control Association
16. ANSI  American National Standards Institute
17. APA  APA – The Engineered Wood Association
18. API  American Petroleum Institute
19. APWA  American Public Works Association
20. AHRI  Air-Conditioning, Heating, and Refrigeration Institute
21. ASA  Acoustical Society of America
22. ASABE  American Society of Agricultural and Biological Engineers
23. ASCE  American Society of Civil Engineers
25. ASME  American Society of Mechanical Engineers
26. ASNT  American Society for Nondestructive Testing
27. ASSE  American Society of Sanitary Engineering
28. ASTM  ASTM International
29. AWI  Architectural Woodwork Institute
30. AWPA  American Wood Preservers’ Association
31. AWPI  American Wood Preservers’ Institute
32. AWS  American Welding Society
33. AWWA  American Water Works Association
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>34. BHMA</td>
<td>Builders Hardware Manufacturers’ Association</td>
</tr>
<tr>
<td>35. CBM</td>
<td>Certified Ballast Manufacturer</td>
</tr>
<tr>
<td>36. CDA</td>
<td>Copper Development Association</td>
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<tr>
<td>37. CGA</td>
<td>Compressed Gas Association</td>
</tr>
<tr>
<td>38. CISPI</td>
<td>Cast Iron Soil Pipe Institute</td>
</tr>
<tr>
<td>39. CMAA</td>
<td>Crane Manufacturers’ Association of America</td>
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<tr>
<td>40. CRSI</td>
<td>Concrete Reinforcing Steel Institute</td>
</tr>
<tr>
<td>41. CS</td>
<td>Commercial Standard</td>
</tr>
<tr>
<td>42. CSA</td>
<td>Canadian Standards Association</td>
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<tr>
<td>43. CSI</td>
<td>Construction Specifications Institute</td>
</tr>
<tr>
<td>44. DIN</td>
<td>Deutsches Institut für Normung e.V.</td>
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<tr>
<td>45. DIPRA</td>
<td>Ductile Iron Pipe Research Association</td>
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<tr>
<td>46. EIA</td>
<td>Electronic Industries Alliance</td>
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<tr>
<td>47. EJCDC</td>
<td>Engineers Joint Contract Documents’ Committee</td>
</tr>
<tr>
<td>48. ETL</td>
<td>Electrical Test Laboratories</td>
</tr>
<tr>
<td>49. FAA</td>
<td>Federal Aviation Administration</td>
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<td>50. FCC</td>
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<td>51. FDA</td>
<td>Food and Drug Administration</td>
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<td>52. FEMA</td>
<td>Federal Emergency Management Agency</td>
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<td>53. FIPS</td>
<td>Federal Information Processing Standards</td>
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<td>54. FM</td>
<td>FM Global</td>
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<td>56. FS</td>
<td>Federal Specifications and Standards (Technical Specifications)</td>
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<td>57. GA</td>
<td>Gypsum Association</td>
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<td>58. GANA</td>
<td>Glass Association of North America</td>
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<td>59. HI</td>
<td>Hydraulic Institute</td>
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<td>60. HMI</td>
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<td>61. IBC</td>
<td>International Building Code</td>
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<td>62. ICBO</td>
<td>International Conference of Building Officials</td>
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<td>63. ICC</td>
<td>International Code Council</td>
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<td>64. ICEA</td>
<td>Insulated Cable Engineers’ Association</td>
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<td>65. IFC</td>
<td>International Fire Code</td>
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<td>66. IEEE</td>
<td>Institute of Electrical and Electronics Engineers, Inc.</td>
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<td>67. IESNA</td>
<td>Illuminating Engineering Society of North America</td>
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<td>68. IFI</td>
<td>Industrial Fasteners Institute</td>
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<td>69. IGMA</td>
<td>Insulating Glass Manufacturer’s Alliance</td>
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<td>70. IMC</td>
<td>International Mechanical Code</td>
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<td>71. INDA</td>
<td>Association of the Nonwoven Fabrics Industry</td>
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<td>72. IPC</td>
<td>International Plumbing Code</td>
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<td>73. ISA</td>
<td>International Society of Automation</td>
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**PART 2 PRODUCTS (NOT USED)**

**PART 3 EXECUTION (NOT USED)**

END OF SECTION
PART 1 GENERAL

1.01 DEFINITIONS
   A. Person-Day: One person for 8 hours within regular Contractor working hours.

1.02 QUALIFICATION OF MANUFACTURER’S REPRESENTATIVE
   A. Authorized representative of the manufacturer, factory trained, and experienced in the technical applications, installation, operation, and maintenance of respective equipment, subsystem, or system, with full authority by the equipment manufacturer to issue the certifications required of the manufacturer. Additional qualifications may be specified in the individual specification section.
   B. Representative subject to acceptance by Engineer. No substitute representatives will be allowed unless prior written approval by such has been given.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 FULFILLMENT OF SPECIFIED MINIMUM SERVICES
   A. Furnish manufacturers’ services, when required by an individual specification section, to meet the requirements of this section.
   B. Where time is necessary in excess of that stated in the Specifications for manufacturers’ services, or when a minimum time is not specified, time required to perform specified services shall be considered incidental.
   C. Schedule manufacturer’ services to avoid conflict with other onsite testing or other manufacturers’ onsite services.
   D. Determine, before scheduling services, that conditions necessary to allow successful testing have been met.
   E. Only those days of service approved by Engineer will be credited to fulfill specified minimum services.
F. When specified in individual specification sections, manufacturer’s onsite services shall include:

1. Assistance during product (system, subsystem, or component) installation to include observation, guidance, instruction of Contractor’s assembly, erection, installation or application procedures.
2. Inspection, checking, and adjustment as required for product (system, subsystem, or component) to function as warranted by manufacturer and necessary to furnish Manufacturer’s Certificate of Proper Installation.
3. Providing, on a daily basis, copies of manufacturer representative’s field notes and data to Engineer.
4. Revisiting the Site as required to correct problems and until installation and operation are acceptable to Engineer.
5. Resolution of assembly or installation problems attributable to or associated with respective manufacturer’s products and systems.
6. Assistance during functional and performance testing, and facility startup and evaluation.
7. Training of Owner’s personnel in the operation and maintenance of respective product as required.

3.02 MANUFACTURER’S CERTIFICATE OF COMPLIANCE

A. When so specified, a Manufacturer’s Certificate of Compliance, a copy of which is attached to this section, shall be completed in full, signed by entity supplying the product, material, or service, and submitted prior to shipment of product or material or execution of the services.

B. Engineer may permit use of certain materials or assemblies prior to sampling and testing if accompanied by accepted certification of compliance.

C. Such form shall certify proposed product, material, or service complies with that specified. Attach supporting reference data, affidavits, and certifications as appropriate.

D. May reflect recent or previous test results on material or product, if acceptable to Engineer.

3.03 MANUFACTURER’S CERTIFICATE OF PROPER INSTALLATION

A. When so specified, a Manufacturer’s Certificate of Proper Installation form, a copy of which is attached to this section, shall be completed and signed by equipment manufacturer’s representative.

B. Such form shall certify signing party is a duly authorized representative of manufacturer, is empowered by manufacturer to inspect, approve, and operate
their equipment and is authorized to make recommendations required to ensure equipment is complete and operational.

3.04 SUPPLEMENTS

A. The supplements listed below, following “End of Section,” are part of this Specification.

1. Forms:
   a. Manufacturer’s Certificate of Compliance.
   b. Manufacturer’s Certificate of Proper Installation.

END OF SECTION
MANUFACTURER’S CERTIFICATE OF COMPLIANCE

OWNER: __________________________    PRODUCT, MATERIAL, OR SERVICE

PROJECT NAME: _____________________    SUBMITTED: _________________________

PROJECT NO: _______________________

Comments: _________________________________________________________________

____________________________________________________________________________

____________________________________________________________________________

____________________________________________________________________________

____________________________________________________________________________

I hereby certify that the above-referenced product, material, or service called for by the Contract for the named Project will be furnished in accordance with all applicable requirements. I further certify that the product, material, or service are of the quality specified and conform in all respects with the Contract requirements, and are in the quantity shown.

Date of Execution: _________________________________, 20___

Manufacturer: ________________________________________________

Manufacturer’s Authorized Representative (print): _______________________

________________________________________

(Authorized Signature)
MANUFACTURER’S CERTIFICATE OF PROPER INSTALLATION

OWNER ___________________________  EQPT SERIAL NO:_______________________

EQPT TAG NO: _____________________  EQPT/SYSTEM: _______________________

PROJECT NO: ______________________  SPEC. SECTION: _______________________

I hereby certify that the above-referenced equipment/system has been:

(Check Applicable)

☐ Installed in accordance with Manufacturer’s recommendations.

☐ Inspected, checked, and adjusted.

☐ Serviced with proper initial lubricants.

☐ Electrical and mechanical connections meet quality and safety standards.

☐ All applicable safety equipment has been properly installed.

☐ Functional tests.

☐ System has been performance tested, and meets or exceeds specified requirements. (When complete system of one manufacturer)

Note: Attach any performance test documentation from manufacturer.

Comments: ____________________________________________________________

_____________________________________________________________________

_____________________________________________________________________

I, the undersigned Manufacturer’s Representative, hereby certify that I am (i) a duly authorized representative of the manufacturer, (ii) empowered by the manufacturer to inspect, approve, and operate their equipment and (iii) authorized to make recommendations required to ensure equipment furnished by the manufacturer is complete and operational, except as may be otherwise indicated herein. I further certify that all information contained herein is true and accurate.

Date: ________________________________, 20___

Manufacturer:

By Manufacturer’s Authorized Representative: __________________________________

(Authorized Signature)
SECTION 01 45 16.13
CONTRACTOR QUALITY CONTROL

PART 1 GENERAL

1.01 REFERENCES

A. The following is a list of standards which may be referenced in this section:

1. ASTM International (ASTM):

1.02 DEFINITIONS

A. Contractor Quality Control (CQC): The means by which Contractor ensures that the construction, to include that performed by subcontractors and suppliers, complies with the requirements of the Contract.

1.03 SUBMITTALS

A. Informational Submittals:

1. CQC Plan: Submit, not later than 30 days after receipt of Notice to Proceed.
2. CQC Report: Submit, weekly, an original and one copy in report form.
3. Submit resumes of all individuals participating in the CQC process.

1.04 OWNER’S QUALITY ASSURANCE

A. All Work is subject to Owner’s quality assurance inspection and testing at all locations and at all reasonable times before acceptance to ensure strict compliance with the terms of the Contract Documents.

B. Owner’s quality assurance inspections and tests are for the sole benefit of Owner and do not:

1. Relieve Contractor of responsibility for providing adequate quality control measures;
2. Relieve Contractor of responsibility for damage to or loss of the material before acceptance;
3. Constitute or imply acceptance; or
4. Affect the continuing rights of Owner after acceptance of the completed Work.

C. The presence or absence of a quality assurance inspector does not relieve Contractor from any Contract requirement.

D. Promptly furnish all facilities, labor, and material reasonably needed for performing such safe and convenient inspections and tests as may be required by Engineer.

E. Owner may charge Contractor for any additional cost of inspection or test when Work is not ready at the time specified by Contractor for inspection or test, or when prior rejection makes re-inspection or retest necessary. Quality assurance inspections and tests will be performed in a manner that will not unnecessarily delay the Work.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 GENERAL

A. Maintain an adequate inspection system and perform such inspections as will ensure that the Work conforms to the Contract Documents.

B. Maintain complete inspection records and make them available at all times to Owner and Engineer.

C. The quality control system shall consist of plans, procedures, and organization necessary to produce an end product that complies with the Contract Documents. The system shall cover all construction and demolition operations, both onsite and offsite, including Work by subcontractors, fabricators, suppliers and purchasing agents, and shall be keyed to the proposed construction sequence.

3.02 COORDINATION MEETING

A. After the Preconstruction Conference, but before start of construction, and prior to acceptance of the CQC Plan, schedule a meeting with Engineer and Owner to discuss the quality control system.

B. Develop a mutual understanding of the system details, including the forms for recording the CQC operations, control activities, testing, administration of the system for both onsite and offsite Work, and the interrelationship of Contractor’s management and control with the Owner’s Quality Assurance.
C. There may be occasions when subsequent conferences may be called by either party to reconfirm mutual understandings and/or address deficiencies in the CQC system or procedures that may require corrective action by Contractor.

3.03 QUALITY CONTROL ORGANIZATION

A. CQC System Manager:
   1. Designate an individual within Contractor’s organization who will be responsible for overall management of CQC and have the authority to act in CQC matters for the Contractor.
   2. CQC System Manager may not perform other duties on the Project.
   3. CQC System Manager shall be an experienced construction person, with a minimum of 3 years construction experience on similar type Work.
   4. CQC System Manager shall report to the Contractor’s project manager or someone higher in the organization. Project manager in this context shall mean the individual with responsibility for the overall quality and production management of the Project.
   5. CQC System Manager shall be onsite during construction; periods of absence may not exceed 2 weeks at any one time.
   6. Identify an alternate for CQC System Manager to serve with full authority during the System Manager’s absence. The requirements for the alternate will be the same as for designated CQC System Manager.

B. CQC Staff:
   1. Designate a CQC staff, available at the Site at all times during progress, with complete authority to take any action necessary to ensure compliance with the Contract. CQC staff members shall be subject to acceptance by Engineer.
   2. CQC staff shall take direction from CQC System Manager in matters pertaining to QC.
   3. CQC staff must be of sufficient size to ensure adequate QC coverage of Work phases, work shifts, and work crews involved in the construction. These personnel may perform other duties, but must be fully qualified by experience and technical training to perform their assigned QC responsibilities and must be allowed sufficient time to carry out these responsibilities.
   4. The actual strength of the CQC staff may vary during any specific Work period to cover the needs of the Project. Add additional staff when necessary for a proper CQC organization.

C. Organizational Changes: Obtain Engineer’s acceptance before replacing any member of the CQC staff. Requests for changes shall include name, qualifications, duties, and responsibilities of the proposed replacement.
3.04 QUALITY CONTROL PHASING

A. CQC shall include at least three phases of control to be conducted by CQC System Manager for all definable features of Work, as follows:

1. Preparatory Phase:
   a. Notify Owner at least 48 hours in advance of beginning any of the required action of the preparatory phase.
   b. This phase shall include a meeting conducted by the CQC System Manager and attended by the superintendent, other CQC personnel (as applicable), and the foreman responsible for the definable feature. The CQC System Manager shall instruct applicable CQC staff as to the acceptable level of workmanship required in order to meet Contract requirements.
   c. Document the results of the preparatory phase meeting by separate minutes prepared by the CQC System Manager and attached to the QC report.
   d. Perform prior to beginning Work on each definable feature of Work:
      1) Review applicable Contract Specifications.
      2) Review applicable Contract Drawings.
      3) Verify that all materials and/or equipment have been tested, submitted, and approved.
      4) Verify that provisions have been made to provide required control inspection and testing.
      5) Examine the Work area to verify that all required preliminary Work has been completed and is in compliance with the Contract.
      6) Perform a physical examination of required materials, equipment, and sample Work to verify that they are on hand, conform to approved Shop Drawing or submitted data, and are properly stored.
      7) Review the appropriate activity hazard analysis to verify safety requirements are met.
      8) Review procedures for constructing the Work, including repetitive deficiencies.
      9) Document construction tolerances and workmanship standards for that phase of the Work.
     10) Check to verify that the plan for the Work to be performed, if so required, has been accepted by Engineer.

2. Initial Phase:
   a. Accomplish at the beginning of a definable feature of Work:
      1) Notify Owner at least 48 hours in advance of beginning the initial phase.
2) Perform prior to beginning Work on each definable feature of Work:
   a) Review minutes of the preparatory meeting.
   b) Check preliminary Work to verify compliance with Contract requirements.
   c) Verify required control inspection and testing.
   d) Establish level of workmanship and verify that it meets minimum acceptable workmanship standards. Comparison with sample panels is appropriate.
   e) Resolve all differences.
   f) Check safety to include compliance with and upgrading of the safety plan and activity hazard analysis. Review the activity analysis with each worker.

3) Separate minutes of this phase shall be prepared by the CQC System Manager and attached to the QC report. Exact location of initial phase shall be indicated for future reference and comparison with follow-up phases.

4) The initial phase should be repeated for each new crew to work onsite, or any time acceptable specified quality standards are not being met.

3. Follow-up Phase:
   a. Perform daily checks to verify continuing compliance with Contract requirements, including control testing, until completion of the particular feature of Work.
   b. Daily checks shall be made a matter of record in the CQC documentation and shall document specific results of inspections for all features of Work for the day or shift.
   c. Conduct final follow-up checks and correct all deficiencies prior to the start of additional features of Work that will be affected by the deficient Work. Constructing upon or concealing nonconforming Work will not be allowed.

4. Additional Preparatory and Initial Phases: Additional preparatory and initial phases may be conducted on the same definable features of Work as determined by Owner if the quality of ongoing Work is unacceptable; or if there are changes in the applicable QC staff or in the onsite production supervision or work crew; or if work on a definable feature is resumed after a substantial period of inactivity, or if other problems develop.
3.05 CONTRACTOR QUALITY CONTROL PLAN

A. General:

1. Plan shall identify personnel, procedures, control, instructions, test, records, and forms to be used.
2. An interim plan for the first 30 days of operation will be considered.
3. Construction will be permitted to begin only after acceptance of the CQC Plan or acceptance of an interim plan applicable to the particular feature of Work to be started.
4. Work outside of the features of Work included in an accepted interim plan will not be permitted to begin until acceptance of a CQC Plan or another interim plan containing the additional features of Work to be started.
5. Applications for payment will not be approved prior to having an approved CQC Plan and Reports in place.

B. Content:

1. Plan shall cover the intended CQC organization for the entire Contract and shall include the following, as a minimum:
   a. Organization: Description of the quality control organization, including a chart showing lines of authority and acknowledgment that the CQC staff will implement the three-phase control system (see Paragraph QC Phasing) for all aspects of the Work specified.
   b. CQC Staff: The name, qualifications (in resume format), duties, responsibilities, and authorities of each person assigned a QC function.
   c. Letters of Authority: A copy of a letter to the CQC System Manager signed by an authorized official of the firm, describing the responsibilities and delegating sufficient authorities to adequately perform the functions of the CQC System Manager, including authority to stop Work which is not in compliance with the Contract. The CQC System Manager shall issue letters of direction to all other various quality control representatives outlining duties, authorities and responsibilities. Copies of these letters will also be furnished to Owner.
   d. Submittals: Procedures for scheduling, reviewing, certifying, and managing submittals, including those of subcontractors, offsite fabricators, suppliers and purchasing agents.
   e. Testing: Control, verification and acceptance testing procedures for each specific test to include the test name, frequency, specification paragraph containing the test requirements, the
personnel and laboratory responsible for each type of test, and an estimate of the number of tests required.
f. Procedures for tracking preparatory, initial, and follow-up control phases and control, verification, and acceptance tests, including documentation.
g. Procedures for tracking deficiencies from identification through acceptable corrective action. These procedures will establish verification that identified deficiencies have been corrected.
h. Reporting procedures, including proposed reporting formats; include a copy of the CQC report form.

C. Acceptance of Plans: Acceptance of the Contractor’s basic and addendum CQC plans is required prior to the start of construction. Acceptance is conditional and will be predicated on satisfactory performance during the construction. Owner reserves the right to require Contractor to make changes in the CQC plan and operations including removal of personnel, as necessary, to obtain the quality specified.

D. Notification of Changes: After acceptance of the CQC plan, Contractor shall notify Engineer, in writing, a minimum of 7 calendar days prior to any proposed change. Proposed changes are subject to acceptance by Engineer.

3.06 CONTRACTOR QUALITY CONTROL REPORT

A. As a minimum, prepare a CQC report for every 7 calendar days. Account for all days throughout the life of the Contract. Reports shall be signed and dated by CQC System Manager. Include copies of test reports and copies of reports prepared by QC staff.

B. Maintain current records of quality control operations, activities, and tests performed, including the Work of subcontractors and suppliers.

C. Records shall be on an acceptable form and shall be a complete description of inspections, the results of inspections, daily activities, tests, and other items, including but not limited to the following:

1. Contractor/subcontractor and their areas of responsibility.
2. Operating plant/equipment with hours worked, idle, or down for repair.
3. Work performed today, giving location, description, and by whom. When a network schedule is used, identify each phase of Work performed each day by activity number.
4. Test and/or control activities performed with results and references to specifications/plan requirements. The control phase should be identified (preparatory, initial, follow-up). List deficiencies noted along with corrective action.
5. Material received with statement as to its acceptability and storage.
6. Identify submittals reviewed, with Contract reference, by whom, and action taken.
7. Offsite surveillance activities, including actions taken.
8. Job safety evaluations stating what was checked, results, and instructions or corrective actions.
9. List instructions given/received and conflicts in Drawings and/or Specifications.
10. Contractor’s verification statement.
11. Indicate a description of trades working on the Project; the number of personnel working; weather conditions encountered; and any delays encountered.
12. These records shall cover both conforming and deficient features and shall include a statement that equipment and materials incorporated in file work and workmanship comply with the Contract.

3.07 SUBMITTAL QUALITY CONTROL

A. Submittals shall be as specified in Section 01 33 00, Submittal Procedures. The CQC organization shall be responsible for certifying that all submittals are in compliance with the Contract requirements. Owner will furnish copies of test report forms upon request by Contractor. Contractor may use other forms as approved.

3.08 TESTING QUALITY CONTROL

A. Testing Procedure:

1. Perform tests specified or required to verify that control measures are adequate to provide a product which conforms to Contract requirements. Procure services of a licensed testing laboratory. Perform the following activities and record the following data:
   a. Verify testing procedures comply with contract requirements.
   b. Verify facilities and testing equipment are available and comply with testing standards.
   c. Check test instrument calibration data against certified standards.
   d. Verify recording forms and test identification control number system, including all of the test documentation requirements, have been prepared.
   e. Documentation:
      1) Record results of all tests taken, both passing and failing, on the CQC report for the date taken.
      2) Include specification paragraph reference, location where tests were taken, and the sequential control number identifying the test.
3) Actual test reports may be submitted later, if approved by Engineer, with a reference to the test number and date taken.

4) Provide directly to Engineer an information copy of tests performed by an offsite or commercial test facility. Test results shall be signed by an engineer registered in the state where the tests are performed.

5) Failure to submit timely test reports, as stated, may result in nonpayment for related Work performed and disapproval of the test facility for this Contract.

B. Testing Laboratories: Laboratory facilities, including personnel and equipment, utilized for testing soils, concrete, asphalt and steel shall meet criteria detailed in ASTM D3740 and ASTM E329, and be accredited by the American Association of Laboratory Accreditation (AALA), National Institute of Standards and Technology (NIST), National Voluntary Laboratory Accreditation Program (NVLAP), the American Association of State Highway and Transportation Officials (AASHTO), or other approved national accreditation authority. Personnel performing concrete testing shall be certified by the American Concrete Institute (ACI).

3.09 COMPLETION INSPECTION

A. CQC System Manager shall conduct an inspection of the Work at the completion of all Work or any milestone established by a completion time stated in the Contract.

B. Punchlist:

1. CQC System Manager shall develop a punchlist of items which do not conform to the Contract requirements.
2. Include punchlist in the CQC report, indicating the estimated date by which the deficiencies will be corrected.
3. CQC System Manager or staff shall make a second inspection to ascertain that all deficiencies have been corrected and so notify the Owner.
4. These inspections and any deficiency corrections required will be accomplished within the time stated for completion of the entire Work or any particular increment thereof if the Project is divided into increments by separate completion dates.

END OF SECTION
PART 1  GENERAL

1.01  SUMMARY

A. This section covers requirements for special inspection, observation, and testing required in accordance with Chapter 17 of the 2012 International Building Code (IBC) and is in addition to and supplements requirements included in Statement of Special Inspections shown on Drawings.

1.02  REFERENCES

A. The following is a list of standards which may be referenced in this section:

2. International Code Council (ICC):
   b. Evaluation Service (ICC-ES) Reports and Legacy Reports.
   b. Virginia Construction Code, 2012 – Part 1 of the USBC.

1.03  DEFINITIONS

A. Agencies and Personnel:

1. Agency Having Jurisdiction (AHJ): Permitting building agency; may be a federal, state, local, or other regional department, or individual including building official, fire chief, fire marshal, chief of a fire prevention bureau, labor department, or health department, electrical inspector; or others having statutory authority. AHJ may be Owner when authorized to be self-permitting by governmental permitting agency or when no governmental agency has authority.
2. Approved Agency: An established and recognized agency regularly engaged in conducting tests or furnishing inspection services, when such agency has been approved.
3. Registered Design Professional in Responsible Charge: An individual who is registered or licensed to practice their respective design profession as defined by statutory requirements of professional registration laws of state or jurisdiction in which Project is to be constructed.
4. Special Inspector: Qualified person employed by Owner who will demonstrate competence to the satisfaction of AHJ for inspection of a particular type of construction or operation requiring special inspection.

B. Statement of Special Inspections: Detailed written procedure contained on Drawings establishing systems and components subject to special inspection, observation, and testing during construction, type and frequency of testing, extent and duration of special inspection, and reports to be completed and distributed by special inspector.

C. Special Inspection:

1. Special Inspection: Inspection required of materials, installation, fabrication, erection, or placement of components and connections requiring special expertise to ensure compliance with approved Contract Documents and referenced standards.

2. Special Inspection, Continuous: Full-time observation of work requiring special inspection by an approved special inspector who is present in area where the Work is being performed.

3. Special Inspection, Periodic: Part-time or intermittent observation of the Work requiring special inspection by an approved special inspector who is present in area where the Work has been or is being performed, and at completion of the Work.

D. Structural Systems and Components:

1. Diaphragm: Component of structural lateral load resisting system consisting of roof, floor, or other membrane or bracing system acting to transfer lateral forces to vertical resisting elements of structure.

2. Drag Strut or Collector: Component of structural lateral load resisting system consisting of diaphragm or shear wall element that collects and transfers diaphragm shear forces to vertical force-resisting elements or distributes forces within diaphragm or shear wall.

3. Seismic-Force-Resisting System: That part of structural lateral load resisting system that has been considered in the design to provide required resistance to seismic forces identified on Drawings.

4. Shear Wall: Component of structural lateral load resisting system consisting of a wall designed to resist lateral forces parallel to plane of the wall. Unless noted otherwise on Drawings, load-bearing walls with direct in-plane connections to roof and floors shall be considered to be shear walls.

5. Wind Force Resisting System: That part of the structural system that has been considered in the design to provide required resistance to wind forces identified on Drawings.
E. Nonstructural Components:

1. Architectural Component Supports: Structural members or assemblies of members that transmit loads and forces from architectural systems or components to structure, including braces, frames, struts, and attachments.

2. Electrical Component Supports: Structural members or assemblies that transmit loads and forces from electrical equipment to structure, including braces, frames, legs, pedestals, and tethers, as well as elements forged or cast as part of component for anchorage.

3. Mechanical Component Supports: Structural members or assemblies which transmit loads and forces from mechanical equipment to structure, including braces, frames, skirts, legs, saddles, pedestals, snubbers, and tethers, as well as elements forged or cast as part of component for anchorage.

F. Professional Observation:

1. Does not include or waive responsibility for required special inspection or inspections by building official.

2. Requirements are indicated on Statement of Special Inspections provided on Drawings.


4. Structural Observation: Visual observation of structural system(s) by a registered design professional for general conformance to Contract Documents.

1.04 STATEMENT OF SPECIAL INSPECTIONS REQUIREMENTS

A. Designated Systems for Inspection:

1. Seismic-force-resisting systems designated under IBC Section 1705 and subject to special inspection under Section 1705: None required.

2. Wind-force-resisting systems designated under IBC Section 1705: None required.

3. Architectural, Mechanical, and Electrical Components Subject to special inspection under IBC Section 1707 for Seismic Resistance: None required.
B. Statement of Special Inspections:

1. As included in Drawings and in support of building permit application, Project-specific requirements were prepared by the Registered Design Professional in Responsible Charge. The following identifies elements of inspection, observation, and testing program to be followed in construction of the Work:
   a. Special inspection and testing required by IBC Section 1705, and other applicable sections and referenced standards therein.
   b. Type and frequency of Special Inspection required.
   c. Type and frequency of testing required.
   d. Required frequency and distribution of testing and special inspection reports to be distributed by special inspector to Engineer, Contractor, building official, and Owner.
   e. Geotechnical Observation to be Performed: Required frequency and distribution of geotechnical observation reports by registered design professional to Contractor, building official, and Owner.
   f. Structural Observations to be Performed: Required frequency and distribution of structural observation reports by registered design professional to Contractor, building official, and Owner.

C. Special inspection and associated testing of shop fabrication and field construction will be performed by an approved accredited independent agency or by AHJ’s approved, qualified inspection staff. Owner will secure and pay for services of agency to perform special inspection and associated testing.

D. Code-required special inspection with associated testing and professional observation, as provided in Statement of Special Inspections on Drawings and further provided in this section, is for benefit of Owner and does not:

1. Relieve Contractor of responsibility for providing adequate quality control measures.
2. Relieve Contractor of responsibility for damage to or loss of material before acceptance.
3. Constitute or imply acceptance.

E. The presence or absence of code-required special inspector and professional observer does not relieve Contractor from Contract requirements.

F. Contractor is responsible for additional costs associated with special inspection, and testing and observation when Work is not ready at time identified by Contractor and special inspectors and professional observer are onsite, but not able to provide contracted services.
G. Contractor is responsible for associated costs for additional special inspection and testing and professional observation by special inspectors and professional observers required because of rejection of materials of in-place Work that cannot be made compliant to Contract Document without additional Site visits or testing.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 GENERAL

A. Requirements of the Statement of Special Inspections are provided by the Owner. All other testing and inspections, unless noted otherwise, are provided by Contractor.

B. Provide access to shop or Site for special inspection and testing and professional observation requirements.

C. Notify Engineer in advance of required special inspection and professional observation no later than 48 hours prior to date of special inspection and professional observation.

D. Provide access for special inspector to construction documents.

E. Retain special inspection records on-site to be readily available for review.

F. Cooperate with special inspector and provide safe access to the Work to be inspected.

G. Submit Fabricator's Certificates of Compliance for approved fabricators.

H. Provide reasonable auxiliary services as requested by the special inspector. Auxiliary services required include, but not limited to:

1. Providing access to the Work and furnishing incidental labor and facilities necessary to facilitate inspections and tests to assist the special inspector in performing test/inspections.
2. Providing storage space for the special inspector’s exclusive use, such as for storing and curing concrete test samples and delivery of samples to testing laboratories.
3. Providing the special inspector with access to all approved submittals.
4. Providing security and protection of samples and test equipment at the Project Site.
5. Provide samples of materials to be tested in required quantities.
I. When required by Registered Design Professional in Responsible Charge, provide access for mechanical and electrical component inspections for those items requiring certification.

J. Materials and systems, inclusive, shall be inspected during placement where continuous special inspection is required.

K. Where periodic special inspection is indicated in the Statement of Special Inspections:

1. Schedule inspections for either during or at completion of their placement or a combination or both.
2. Schedule periodically inspected Work (either inspected during or after its placement) so that corrections can be completed and re-inspected before Work is inaccessible.
3. Sampling a portion of the Work is not allowed. Schedules shall provide for inspection of all Work requiring periodic inspection.

3.02 SUPPLEMENTS

A. The supplement listed below, following “End of Section,” is part of this Specification:

1. Fabricator’s Certificate of Compliance.
2. Statement of Special Inspections.
3. 2012 IBC Tables.

END OF SECTION
FABRICATOR’S CERTIFICATE OF COMPLIANCE

Each approved fabricator that is exempt from Special Inspection of shop fabrication and implementation procedures in accordance with section 1704.2.5 of 2012 IBC must submit Fabricator’s Certificate of Compliance at the completion of fabrication.

________________________________________
(Project)

________________________________________
(Fabricator’s Name)

________________________________________
(Business Address)

________________________________________
(Certification or Approval Agency)

________________________________________
(Certification Number)

________________________________________
(Date of Last Audit or Approval)

Description of structural members and assemblies that have been fabricated:

________________________________________
________________________________________
________________________________________
________________________________________

I hereby certify that items described above were fabricated in strict accordance with approved construction documents.

________________________________________
(Name and Title) type or print

________________________________________
(Signature and Date)

Attach copies of fabricator’s certification or building code evaluation service report and fabricator’s quality control manual.
STATEMENT OF SPECIAL INSPECTIONS

GENERAL NOTES

1. THE STATEMENT OF SPECIAL INSPECTIONS PROVIDE PROJECT COMPLIANCE WITH THE PROVISIONS OF THE 2012 INTERNATIONAL BUILDING CODE (IBC) CHAPTER 17 FOR SPECIAL INSPECTION, STRUCTURAL OBSERVATION, AND TESTING FOR WIND AND SEISMIC RESISTANCE AS APPLICABLE. EXCEPT WHERE OTHERWISE NOTED, THIS INSPECTION IS OWNER FURNISHED.

2. STANDARD SPECIAL INSPECTION REQUIREMENTS FOR NONSTRUCTURAL COMPONENTS ARE CONTAINED IN TABLE 1.

3. STANDARD SPECIAL INSPECTION REQUIREMENTS FOR STRUCTURAL COMPONENTS, REGARDLESS OF WIND OR SEISMIC DESIGN CATEGORIES, ARE CONTAINED IN TABLE 2. STANDARD TESTING REQUIREMENTS FOR STRUCTURAL COMPONENTS ARE CONTAINED IN TABLE 3.

4. FOR ADDITIONAL REQUIREMENTS, REFER TO SPECIFICATION SECTION 01 45 33, SPECIAL INSPECTION, OBSERVATION AND TESTING. THESE INCLUDE:

   A. CONTRACTOR’S REQUIREMENTS TO PROVIDE ACCESS TO THE WORK FOR REQUIRED INSPECTIONS, AND TO PROVIDE NOTICE OF REQUIRED INSPECTIONS AND STRUCTURAL OBSERVATION.

   B. CONTRACTOR’S STATEMENT OF RESPONSIBILITY FOR WORK TO BE PERFORMED ON SYSTEMS DESIGNATED UNDER THE STATEMENT OF SPECIAL INSPECTIONS FOR WIND OR SEISMIC RESISTANCE.

   C. DEFINITIONS AND TERMINOLOGY USED IN THIS STATEMENT OF SPECIAL INSPECTIONS.

SPECIAL INSPECTION

1. SPECIAL INSPECTION WILL BE IN ACCORDANCE WITH IBC SECTIONS 1704 AND 1705 TOGETHER WITH LOCAL AND STATE AMENDMENTS. REFER TO THE FOLLOWING TABLES FOR PROJECT SPECIFIC INSPECTION TYPES AND FREQUENCIES.

2. SPECIAL INSPECTIONS WILL BE PROVIDED BY A CERTIFIED OR QUALIFIED INSPECTOR AND ASSOCIATED TESTING WILL BE PERFORMED BY AN APPROVED ACCREDITED INDEPENDENT AGENCY. THE OWNER WILLS SECURE AND PAY FOR THE SERVICES OF THE AGENCY TO PERFORM ALL SPECIAL INSPECTION AND ASSOCIATED TESTS. INSPECTORS FOR EACH SYSTEM AND MATERIAL WILL BE
INTERNATIONAL CODE COUNCIL (ICC) CERTIFIED OR OTHERWISE APPROVED BY THE BUILDING OFFICIAL.

3. THE SPECIAL INSPECTOR WILL OBSERVE THE INDICATED WORK FOR COMPLIANCE WITH THE APPROVED CONTRACT DOCUMENTS AND SUBMIT RECORDS OF INSPECTION. ALL DISCREPANCIES WILL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION.

4. SPECIAL INSPECTION AND ASSOCIATED TESTING REPORTS WILL BE SUBMITTED TO THE ENGINEER, CONTRACTOR, BUILDING OFFICIAL, AND OWNER WITHIN ONE WEEK OF INSPECTION OR WITHIN ONE WEEK OF TEST COMPLETION. INSPECTIONS FOR WHICH REPORTING WILL BE REQUIRED ARE NOTED IN THE FOLLOWING TABLES.

5. AT THE CONCLUSION OF CONSTRUCTION, A FINAL REPORT DOCUMENTING REQUIRED SPECIAL INSPECTIONS AND CORRECTION OF PREVIOUSLY NOTED DISCREPANCIES WILL BE SUBMITTED.

GEOTECHNICAL OBSERVATION

1. ALL FOUNDATION-BEARING SURFACES SHALL BE INSPECTED BY GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT OF REINFORCING STEEL. ADDITIONAL SPECIAL INSPECTION REQUIREMENTS ARE LISTED IN TABLE 1.

2. GEOTECHNICAL TESTING REQUIREMENTS ARE LISTED IN TABLE 3.

STRUCTURAL OBSERVATION

1. STRUCTURAL OBSERVATION WILL BE IN ACCORDANCE WITH IBC SECTION 1704.5 TOGETHER WITH LOCAL AND STATE AMENDMENTS.

2. STRUCTURAL OBSERVATION WILL BE PERFORMED BY A REGISTERED PROJECT DESIGN PROFESSIONAL FOR GENERAL CONFORMANCE TO THE APPROVED CONSTRUCTION DOCUMENTS. STRUCTURAL OBSERVATION DOES NOT INCLUDE OR WAIVE THE RESPONSIBILITY FOR ANY REQUIRED SPECIAL INSPECTIONS OR INSPECTIONS BY THE BUILDING OFFICIAL.

3. STRUCTURAL OBSERVATION REPORTS, NOTING ANY DEFICIENCIES IN OBSERVED CONSTRUCTION, WILL BE DELIVERED TO THE CONTRACTOR, BUILDING OFFICIAL, AND OWNER FOLLOWING EACH OBSERVATION. THE CONTRACTOR WILL BE NOTIFIED ONSITE OR BY PHONE OR E-MAIL WITHIN 24 HOURS UPON FINDING DEFICIENCIES.

4. AT THE CONCLUSION OF CONSTRUCTION, A WRITTEN STATEMENT WILL BE PROVIDED TO VERIFY THAT THE STRUCTURAL OBSERVATION
SITE VISITS WERE MADE AND WHETHER THERE REMAIN ANY STRUCTURAL DEFICIENCIES THAT HAVE NOT BEEN RESOLVED.


SPECIAL INSPECTIONS FOR WIND RESISTANCE

1. SPECIAL INSPECTIONS REQUIREMENTS FOR WIND RESISTANCE WILL BE IN ACCORDANCE WITH IBC SECTION 1705.10 TOGETHER WITH LOCAL AND STATE AMENDMENTS.

2. SPECIAL INSPECTIONS REQUIREMENTS SHALL APPLY TO THE FOLLOWING:
   A. WIND FORCE-RESISTING SYSTEMS IN STRUCTURES IN WIND EXPOSURE CATEGORY B, WHERE THE 3-SECOND-GUST BASIC WIND SPEED \([V_{asd}]\) IS 120 MILES PER HOUR OR GREATER.
   B. WIND FORCE-RESISTING SYSTEMS IN STRUCTURES IN WIND EXPOSURE CATEGORIES C OR D, WHERE THE 3-SECOND-GUST BASIC WIND SPEED \([V_{asd}]\) IS 110 MILES PER HOUR OR GREATER.
   C. REFER TO GENERAL STRUCTURAL NOTES, DRAWING SHEET 004-S-0001, FOR BASIC WIND SPEED AND WIND EXPOSURE CATEGORY.

3. WIND FORCE-RESISTING SYSTEMS TO RECEIVE SPECIAL INSPECTION FOR WIND RESISTANCE SHALL INCLUDE THE COMPONENTS LISTED IN TABLE 5.

4. MAIN SYSTEMS REQUIRED TO BE COVERED UNDER PROJECT SPECIAL INSPECTION REQUIREMENTS INCLUDE THE IN-GATE PREMANUFACTURED METAL CANOPY STRUCTURE AND ITS CONNECTIONS.

SPECIAL INSPECTIONS FOR SEISMIC RESISTANCE

1. SPECIAL INSPECTIONS REQUIREMENTS FOR SEISMIC RESISTANCE IN ACCORDANCE WITH IBC SECTION 1705.11 AND 1705.12 ARE NOT APPLICABLE TO THIS PROJECT.
## STRUCTURAL OBSERVATION TABLE

<table>
<thead>
<tr>
<th>SYSTEM</th>
<th>STAGE</th>
<th>ITEMS</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. FOUNDATION SLAB OF STRUCTURE</td>
<td>PRIOR TO FIRST CONCRETE PLACEMENT OF FIRST SECTION WHEN ITEMS CAN STILL BE REVISED</td>
<td>REINFORCING STEEL, CONCRETE AND MASONRY WALL DOWELS, WATERSTOPS, EMBEDS, AND SIMILAR ITEMS</td>
<td>NOTE 1</td>
</tr>
<tr>
<td>2. CONCRETE STRUCTURES</td>
<td>PRIOR TO FIRST CONCRETE PLACEMENT ON FIRST LIQUID HOLDING STRUCTURE WHEN ITEMS CAN STILL BE REVISED</td>
<td>REINFORCING STEEL, WALL DOWELS, WATERSTOPS, EMBEDS, AND SIMILAR ITEMS</td>
<td>NOTE 1</td>
</tr>
<tr>
<td>3. CONCRETE STRUCTURES</td>
<td>AT COMPLETION OF PLACEMENT OF ALL CONCRETE COMPONENTS FOR THE FIRST LIQUID HOLDING STRUCTURE</td>
<td>CONCRETE TOLERANCES, FINISHING, LIQUID TIGHTNESS, AND SIMILAR ITEMS</td>
<td>NOTE 1</td>
</tr>
<tr>
<td>4. SYSTEM CONNECTION EMBEDS</td>
<td>PRIOR TO GROUT OR CONCRETE PLACEMENT</td>
<td></td>
<td>NOTE 1</td>
</tr>
<tr>
<td>5. CONCRETE WALL TO FLOOR AND ROOF CONNECTIONS</td>
<td>PRIOR TO FORM CLOSURE [OR CLADDING INSTALLATION] OR OTHER COVER</td>
<td></td>
<td>NOTE 1</td>
</tr>
<tr>
<td>6. STRUCTURAL STEEL FRAMING</td>
<td>DURING INITIAL CONSTRUCTION OF STEEL FRAMING AT FIRST STEEL FRAMED BUILDING PRIOR TO ENCLOSURE OF FRAMING BEHIND FINAL FINISHES</td>
<td>MEMBER LOCATIONS AND CONFIGURATIONS, BOLTED AND WELDED CONNECTIONS, AND SIMILAR ITEMS</td>
<td>NOTE 1</td>
</tr>
</tbody>
</table>

**NOTES:**
1. STRUCTURAL OBSERVER TO DISCUSS ITEMS AND SITE SPECIFIC CONDITIONS WITH SPECIAL INSPECTOR AND FIELD INSPECTION STAFF DURING OBSERVATION.
### TABLE 1
**REQUIRED NON-STRUCTURAL SPECIAL INSPECTION**

Refer to Specification Section 01 45 33

<table>
<thead>
<tr>
<th>SYSTEM OR MATERIAL</th>
<th>2012 IBC CODE REFERENCE</th>
<th>REFERENCED STANDARD</th>
<th>PERIODIC OWNER FURNISHED SPECIAL INSPECTION (SEE NOTE 1)</th>
<th>CONTINUOUS OWNER FURNISHED SPECIAL INSPECTION</th>
<th>COMMENTS</th>
<th>TESTING FOR SPECIAL INSPECTION</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GEOTECHNICAL</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A. VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE DESIGN BEARING CAPACITY</td>
<td>1705.6, 1803.5.8, 1803.5.9, 1804.5</td>
<td>SECTION 31 23 13, SUBGRADE PREPARATION</td>
<td>X</td>
<td></td>
<td></td>
<td>PROFESSIONAL OBSERVATION BY GEOTECHNICAL ENGINEER</td>
</tr>
<tr>
<td>B. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL</td>
<td>1705.6</td>
<td>SECTION 31 23 16, EXCAVATION</td>
<td>X</td>
<td></td>
<td></td>
<td>PROFESSIONAL OBSERVATION BY GEOTECHNICAL ENGINEER</td>
</tr>
<tr>
<td>C. PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS</td>
<td>1705.6</td>
<td>SECTION 31 23 23, FILL AND BACKFILL</td>
<td>X</td>
<td></td>
<td></td>
<td>SEE TABLE 3 FOR GRADATION TEST REQUIREMENTS</td>
</tr>
<tr>
<td>D. VERIFY USE OF PROPER MATERIALS, DENSITIES, AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL</td>
<td>1705.6, 1803.5.8</td>
<td>SECTION 31 23 23, FILL AND BACKFILL</td>
<td>X</td>
<td></td>
<td></td>
<td>SEE TABLE 3 FOR DENSITY TEST REQUIREMENTS</td>
</tr>
<tr>
<td>E. PRIOR TO PLACEMENT OF COMPACTED FILL, OBSERVE SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY</td>
<td>1705.6</td>
<td>SECTION 31 23 13, SUBGRADE PREPARATION</td>
<td>X</td>
<td></td>
<td></td>
<td>PROFESSIONAL OBSERVATION BY GEOTECHNICAL ENGINEER</td>
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<th>COMMENTS</th>
<th>TESTING FOR SPECIAL INSPECTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. CONSTRUCTION MATERIALS AND SYSTEMS THAT ARE ALTERNATIVES TO MATERIALS AND SYSTEMS PRESCRIBED BY CODE</td>
<td>1705.1.1 ITEM 1</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. UNUSUAL DESIGN APPLICATION OF CODE MATERIALS</td>
<td>1705.1.1 ITEM 2</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. INSTALLATION OF MATERIALS REQUIRING ADDITIONAL MANUFACTURER'S INSTRUCTIONS BEYOND CODE REQUIREMENTS</td>
<td>1703.4.2, 1705.1.1 ITEM 3</td>
<td>ICC-ES EVALUATION REPORTS</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### GENERAL

### STRUCTURAL

See Table 2.

## NOTES:
1. PERIODIC INSPECTION IS DEFINED AS INSPECTION BY THE SPECIAL INSPECTOR OF ALL MATERIALS AND SYSTEMS, IN SOME CASES PERFORMED DURING THEIR PLACEMENT AND IN ALL CASES PERFORMED UPON COMPLETION OF THEIR PLACEMENT. THE COMPLETION INSPECTION SHALL BE PERFORMED SO THAT WORK CAN BE CORRECTED PRIOR TO OTHER RELATED WORK PROCEEDING AND COVERING INSPECTED WORK.
### TABLE 2
**REQUIRED STRUCTURAL SPECIAL INSPECTION**

Refer to specification section 01 45 33

<table>
<thead>
<tr>
<th>SYSTEM</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CONCRETE</strong></td>
</tr>
</tbody>
</table>

<table>
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<tr>
<th></th>
<th>2012 IBC CODE REFERENCE</th>
<th>REFERENCED STANDARD</th>
<th>PERIODIC OWNER FURNISHED SPECIAL INSPECTION (SEE NOTE 1)</th>
<th>CONTINUOUS OWNER FURNISHED SPECIAL INSPECTION</th>
<th>COMMENTS</th>
<th>TESTING FOR SPECIAL INSPECTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. INSPECTION OF REINFORCING STEEL, INCLUDING PRESTRESSING TENDONS, AND PLACEMENT</td>
<td>1705.3, 1903.1</td>
<td>ACI 318: 3.5, 7.1-7.7</td>
<td>X</td>
<td></td>
<td>SEE TABLE 6 FOR REINFORCING STEEL TESTING</td>
<td></td>
</tr>
<tr>
<td>2. INSPECTION OF REINFORCING STEEL WELDING</td>
<td>1705.3, 1903.1</td>
<td>AWS D1.4</td>
<td>ACI 318: 3.5.2</td>
<td></td>
<td>SEE STRUCTURAL STEEL (IN THIS TABLE) FOR WELDING INSPECTION REQUIREMENTS</td>
<td></td>
</tr>
<tr>
<td>3. INSPECTION OF ANCHORS CAST IN CONCRETE</td>
<td>1705.3, 1908.5, 1909.1</td>
<td>ACI 318: 8.1.3</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. INSPECTION OF ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS</td>
<td>1705.3, 1909.1</td>
<td>ACI 318: 3.8.6, 8.1.3, ICC-ES EVALUATION REPORTS</td>
<td>X</td>
<td></td>
<td>PROVIDE CONTINUOUS SPECIAL INSPECTION WHERE REQUIRED BY ICC-ES REPORT</td>
<td></td>
</tr>
<tr>
<td>5. VERIFYING USE OF REQUIRED DESIGN MIX</td>
<td>1705.3, 1904.2</td>
<td>ACI 318: Ch. 4, 5.2-5.4</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. AT THE TIME FRESH CONCRETE IS SAMPLED TO FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE</td>
<td>1705.3</td>
<td>ASTM C 172, ASTM C 31, ACI 318: 5.6, 5.8</td>
<td>X</td>
<td></td>
<td>SEE TABLE 3 FOR CONCRETE TEST REQUIREMENTS</td>
<td></td>
</tr>
</tbody>
</table>
### TABLE 2
REQUIRED STRUCTURAL SPECIAL INSPECTION

REFER TO SPECIFICATION SECTION 01 45 33

<table>
<thead>
<tr>
<th>SYSTEM</th>
<th>2012 IBC CODE REFERENCE</th>
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<th>CONTINUOUS OWNER FURNISHED SPECIAL INSPECTION</th>
<th>COMMENTS</th>
<th>TESTING FOR SPECIAL INSPECTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>7. INSPECTION OF CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES</td>
<td>1705.3</td>
<td>ACI 318: 5.9, 5.10</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. INSPECTION FOR MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES</td>
<td>1705.3</td>
<td>ACI 318: 5.11-5.13</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. INSPECT FORMWORK FOR SHAPE, LOCATION, AND DIMENSIONS OF CONCRETE MEMBER BEING FORMED</td>
<td>1705.3</td>
<td>ACI 318: 6.1.1</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. VERIFY PROPER INSTALLATION OF MECHANICAL REINFORCING SPLICES AND CONNECTIONS</td>
<td>1705.1.1 ITEM 3, 1705.3</td>
<td>ICC-ES EVALUATION REPORTS</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**STRUCTURAL STEEL**

1. MATERIAL VERIFICATION OF STRUCTURAL STEEL:

A. IDENTIFICATION MARKINGS TO CONFORM TO AISC 360
   - 1705.2.1, 2203.1
   - Applicable ASTM Material Standards
   - X

B. MANUFACTURER’S CERTIFIED TEST REPORTS
   - 1705.2.1
   - AISC 360: Sec. N3.2, N5.2
   - X
### TABLE 2
**REQUIRED STRUCTURAL SPECIAL INSPECTION**

REFER TO SPECIFICATION SECTION 01 45 33

<table>
<thead>
<tr>
<th>SYSTEM</th>
<th>2012 IBC CODE REFERENCE</th>
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<th>PERIODIC OWNER FURNISHED SPECIAL INSPECTION (SEE NOTE 1)</th>
<th>CONTINUOUS OWNER FURNISHED SPECIAL INSPECTION</th>
<th>COMMENTS</th>
<th>TESTING FOR SPECIAL INSPECTION</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2. PRIOR TO BOLTING, VERIFY THAT THE FOLLOWING ARE IN COMPLIANCE:

A. MANUFACTURER’S CERTIFICATIONS AVAILABLE FOR FASTENER MATERIALS
   - 1705.2.1 AISC 360: Sec. N3.2, N5.2, N5.6
   - RCSC: Sec. 2.1, 9.1
   - X

B. FASTENERS MARKED IN ACCORDANCE WITH ASTM REQUIREMENTS
   - 1705.2.1 AISC 360: Sec. N3.2, N5.2, N5.6
   - Applicable ASTM Material Standards
   - X

C. PROPER BOLTING PROCEDURE SELECTED FOR JOINT DETAIL
   - 1705.2.1 AISC 360: Sec. N5.6
   - RCSC: Sec. 4
   - X

D. CONNECTING ELEMENTS, INCLUDING APPROPRIATE FAYING SURFACE CONDITION AND HOLE PREPARATION, IF SPECIFIED, MEET APPLICABLE REQUIREMENTS
   - 1705.2.1 AISC 360: Sec. N5.6
   - RCSC: Sec. 3.2, 4
   - X

E. PRE-INSTALLATION VERIFICATION TESTING BY INSTALLATION PERSONNEL OBSERVED AND DOCUMENTED FOR FASTENER ASSEMBLIES AND METHODS USED
   - 1705.2.1 AISC 360: Sec. N5.6
   - RCSC: Sec. 7
   - X
### TABLE 2
REQUIRED STRUCTURAL SPECIAL INSPECTION

REFER TO SPECIFICATION SECTION 01 45 33

<table>
<thead>
<tr>
<th>SYSTEM</th>
<th>2012 IBC CODE REFERENCE</th>
<th>REFERENCED STANDARD</th>
<th>PERIODIC OWNER FURNISHED SPECIAL INSPECTION (SEE NOTE 1)</th>
<th>CONTINUOUS OWNER FURNISHED SPECIAL INSPECTION</th>
<th>COMMENTS</th>
<th>TESTING FOR SPECIAL INSPECTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>F. PROPER STORAGE PROVIDED FOR BOLTS, NUTS, WASHERS, AND OTHER FASTENER COMPONENTS</td>
<td>1705.2.1</td>
<td>AISC 360: Sec. N5.6 RCSC: Sec. 2.2</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3. VERIFY DURING BOLTING:

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>A. FASTENER ASSEMBLIES, OF SUITABLE CONDITION, PLACED IN ALL HOLES AND WASHERS (IF REQUIRED) ARE POSITIONED AS REQUIRED</td>
<td>1705.2.1</td>
<td>AISC 360: Sec. N5.6</td>
<td>X</td>
</tr>
<tr>
<td>B. JOINT BROUGHT TO SNUG-TIGHT CONDITION PRIOR TO THE PRETENSIONING OPERATION</td>
<td>1705.2.1</td>
<td>AISC 360: Sec. N5.6</td>
<td>X</td>
</tr>
<tr>
<td>C. FASTENER COMPONENT NOT TURNED BY THE WRENCH PREVENTED FROM ROTATING</td>
<td>1705.2.1</td>
<td>AISC 360: Sec. N5.6</td>
<td>X</td>
</tr>
<tr>
<td>D. FASTENERS ARE PRETENSIONED IN ACCORDANCE WITH THE RCSC SPECIFICATION, PROGRESSING SYSTEMATICALLY FROM THE MOST RIGID POINT TOWARD THE FREE EDGES</td>
<td>1705.2.1</td>
<td>AISC 360: Sec. N5.6</td>
<td>X</td>
</tr>
</tbody>
</table>

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9/6/2017
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SPECIAL INSPECTION, OBSERVATION, AND TESTING
01 45 33 SUPPLEMENT 3 - 7
### TABLE 2
REQUIRED STRUCTURAL SPECIAL INSPECTION

REFER TO SPECIFICATION SECTION 01 45 33

<table>
<thead>
<tr>
<th>SYSTEM</th>
<th>2012 IBC CODE REFERENCE</th>
<th>REFERENCED STANDARD</th>
<th>PERIODIC OWNER FURNISHED SPECIAL INSPECTION (SEE NOTE 1)</th>
<th>CONTINUOUS OWNER FURNISHED SPECIAL INSPECTION</th>
<th>COMMENTS</th>
<th>TESTING FOR SPECIAL INSPECTION</th>
</tr>
</thead>
</table>

4. PRIOR TO WELDING, VERIFY THAT THE FOLLOWING ARE IN COMPLIANCE:

A. APPROVED WELDING PROCEDURE
SPECIFICATIONS (WPS) AVAILABLE TO WELDERS AND WELDING INSPECTOR(S)

| 1705.2.1 | AWS D1.1 | X |

B. WELDER QUALIFICATIONS AND JOINT FIT-UP

| 1705.2 | AWS D1.1 | X |

NOTE 2 ALSO SEE REQUIREMENTS OF SPEC SECTION 05 05 23

5. VERIFY DURING WELDING:

A. CONTROL AND HANDLING OF WELDING CONSUMABLES

| 1705.2.1 | AWS D1.1 | X |

B. ENVIRONMENTAL CONDITIONS

| 1705.2.1 | AWS D1.1 | X |

C. COMPLIANCE WITH WPS REQUIREMENTS

| 1705.2.1 | AWS D1.1 | X |

NOTE 2 ALSO SEE REQUIREMENTS OF SPEC. SECTION 05 05 23 AND TABLE 3 FOR STRUCTURAL STEEL TEST REQUIREMENT
### TABLE 2
REQUIRED STRUCTURAL SPECIAL INSPECTION

REFER TO SPECIFICATION SECTION 01 45 33

<table>
<thead>
<tr>
<th>SYSTEM</th>
<th>2012 IBC CODE REFERENCE</th>
<th>REFERENCED STANDARD</th>
<th>PERIODIC OWNER FURNISHED SPECIAL INSPECTION (SEE NOTE 1)</th>
<th>CONTINUOUS OWNER FURNISHED SPECIAL INSPECTION</th>
<th>COMMENTS</th>
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</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
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</tbody>
</table>

6. AFTER WELDING, VERIFY THE FOLLOWING:

A. SIZE, LENGTH AND LOCATION OF WELDS

<table>
<thead>
<tr>
<th></th>
<th>1705.2.1</th>
<th>AWS D1.1</th>
<th>X</th>
<th>NOTE 2</th>
</tr>
</thead>
</table>

B. WELDS MEET VISUAL ACCEPTANCE CRITERIA

<table>
<thead>
<tr>
<th></th>
<th>1705.2.1</th>
<th>AWS D1.1</th>
<th>X</th>
<th>NOTE 2</th>
</tr>
</thead>
</table>

C. BACKING REMOVED AND WELD TABS REMOVED (IF REQUIRED)

<table>
<thead>
<tr>
<th></th>
<th>1705.2.1</th>
<th>AWS D1.1</th>
<th>X</th>
</tr>
</thead>
</table>

D. NONDESTRUCTIVE WELDING INSPECTION

<table>
<thead>
<tr>
<th></th>
<th>1705.2.1</th>
<th>AWS D1.1</th>
<th>X</th>
</tr>
</thead>
</table>

NOTE 2 ALSO SEE REQUIREMENTS OF SPEC. SECTION 05 05 23

7. INSPECTION OF STEEL FRAME JOINT DETAILS FOR COMPLIANCE:

A. DETAILS SUCH AS BRACING AND STIFFENING

<table>
<thead>
<tr>
<th></th>
<th>1705.2.1</th>
<th></th>
<th>X</th>
</tr>
</thead>
</table>

B. MEMBER LOCATIONS

<table>
<thead>
<tr>
<th></th>
<th>1705.2.1</th>
<th></th>
<th>X</th>
</tr>
</thead>
</table>

C. APPLICATION OF JOINT DETAILS AT EACH CONNECTION

<table>
<thead>
<tr>
<th></th>
<th>1705.2.1</th>
<th></th>
<th>X</th>
</tr>
</thead>
</table>
### TABLE 2
**REQUIRED STRUCTURAL SPECIAL INSPECTION**

Refer to Specification Section 01 45 33

<table>
<thead>
<tr>
<th>SYSTEM</th>
<th>2012 IBC CODE REFERENCE</th>
<th>REFERENCED STANDARD</th>
<th>PERIODIC OWNER FURNISHED SPECIAL INSPECTION (SEE NOTE 1)</th>
<th>CONTINUOUS OWNER FURNISHED SPECIAL INSPECTION</th>
<th>COMMENTS</th>
<th>TESTING FOR SPECIAL INSPECTION</th>
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</thead>
<tbody>
<tr>
<td><strong>STEEL CONSTRUCTION OTHER THAN STRUCTURAL STEEL</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A. VERIFICATION OF WELDABILITY OF REINFORCING STEEL OTHER THAN ASTM A706</td>
<td>1705.2.2, 1903.1</td>
<td>AWS D1.4 ACI 318: 3.5.2</td>
<td>X</td>
<td>NOTE 2</td>
<td>CONTRACTOR TO DETERMINE THE CARBON EQUIVALENT TO DEVELOP WPS REQUIREMENTS</td>
<td></td>
</tr>
<tr>
<td>B. REINFORCING STEEL RESISTING FLEXURAL AND AXIAL FORCES IN INTERMEDIATE AND SPECIAL MOMENT FRAMES</td>
<td>1705.2.2, 1903.1</td>
<td>AWS D1.4 ACI 318: 3.5.2</td>
<td>X</td>
<td></td>
<td>SEE TABLE 3 FOR TESTING OF WELDING REINFORCING STEEL</td>
<td></td>
</tr>
<tr>
<td>C. REINFORCING STEEL FOR BOUNDARY ELEMENTS OF SPECIAL STRUCTURAL WALLS OF CONCRETE AND SHEAR REINFORCEMENT</td>
<td>1705.2.2, 1903.1</td>
<td>AWS D1.4 ACI 318: 3.5.2</td>
<td>X</td>
<td></td>
<td>SEE TABLE 3 FOR TESTING OF WELDING REINFORCING STEEL</td>
<td></td>
</tr>
<tr>
<td>D. SHEAR REINFORCEMENT</td>
<td>1705.2.2, 1903.1</td>
<td>AWS D1.4 ACI 318: 3.5.2</td>
<td>X</td>
<td></td>
<td>SEE TABLE 3 FOR TESTING OF WELDING REINFORCING STEEL</td>
<td></td>
</tr>
</tbody>
</table>
### Table 2
**Required Structural Special Inspection**

Refer to Specification Section 01 45 33

<table>
<thead>
<tr>
<th>System</th>
<th>2012 IBC Code Reference</th>
<th>Referenced Standard</th>
<th>Periodic Owner Furnished Special Inspection (See Note 1)</th>
<th>Continuous Owner Furnished Special Inspection</th>
<th>Comments</th>
<th>Testing for Special Inspection</th>
</tr>
</thead>
<tbody>
<tr>
<td>E. Other Reinforcing Steel</td>
<td>1705.2.2, 1903.1</td>
<td>AWS D1.4 ACI 318: 3.5.2</td>
<td>X</td>
<td></td>
<td>NOTE 2</td>
<td>ALSO SEE REQUIREMENTS OF SPEC. SECTION 05 05 23</td>
</tr>
</tbody>
</table>

**Notes:**

1. **Periodic Inspection** is defined as inspection by the Special Inspector of all materials and systems, in some cases performed during their placement and in all cases performed upon completion of their placement. The completion inspection shall be performed so that work can be corrected prior to other related work proceeding and covering inspected work.

2. **Visual Inspection** is the responsibility of the contractor's welding inspector(s) and is not considered special inspection. Contractor must provide a qualified welding inspector to oversee contractor's welding operations, as required by AWS D1.1, Sections 6.1.2 and 6.6, Spec. Section 05 05 23, and referenced welding codes.
<table>
<thead>
<tr>
<th>MATERIAL</th>
<th>TYPE OR SCOPE</th>
<th>STANDARD</th>
<th>2012 IBC CODE REFERENCE</th>
<th>FREQUENCY</th>
<th>BY WHOM</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMPACTED FILL</td>
<td>GRADATION</td>
<td>ASTM C117, C136</td>
<td>1705.6</td>
<td>SECTION 31 23 23, FILL AND BACKFILL</td>
<td>OWNER'S TESTING AGENCY</td>
<td></td>
</tr>
<tr>
<td>COMPACTED FILL</td>
<td>COMPACTION</td>
<td>ASTM D698</td>
<td>1705.6</td>
<td>SECTION 31 23 23, FILL AND BACKFILL</td>
<td>OWNER'S TESTING AGENCY</td>
<td></td>
</tr>
<tr>
<td>COMPACTED FILL</td>
<td>DENSITY</td>
<td>ASTM D1556</td>
<td>1705.6</td>
<td>SECTION 31 23 23, FILL AND BACKFILL</td>
<td>OWNER'S TESTING AGENCY</td>
<td></td>
</tr>
<tr>
<td>PREPARED SUBGRADE</td>
<td>DENSITY</td>
<td>ASTM D698</td>
<td>1705.6</td>
<td>SECTION 31 23 13, SUBGRADE PREPARATION</td>
<td>OWNER'S TESTING AGENCY</td>
<td></td>
</tr>
<tr>
<td>CONCRETE</td>
<td>STRENGTH</td>
<td>ASTM C39</td>
<td>1705.3</td>
<td>ONCE EACH DAY, BUT NOT LESS THAN 1 SAMPLE FOR EACH 150 CUBIC YARDS OR 5,000 SQUARE FEET OF WALLS OR SLABS PLACED</td>
<td>OWNER'S TESTING AGENCY</td>
<td></td>
</tr>
<tr>
<td>CONCRETE</td>
<td>SLUMP</td>
<td>ASTM C143, C94</td>
<td>1705.3</td>
<td>ONE SAMPLE PER STRENGTH TEST</td>
<td>OWNER'S TESTING AGENCY</td>
<td></td>
</tr>
<tr>
<td>MATERIAL</td>
<td>TYPE OR SCOPE</td>
<td>STANDARD</td>
<td>2012 IBC CODE REFERENCE</td>
<td>FREQUENCY</td>
<td>BY WHOM</td>
<td>COMMENTS</td>
</tr>
<tr>
<td>------------------</td>
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<tr>
<td>CONCRETE</td>
<td>AIR CONTENT</td>
<td>ASTM C231, C94</td>
<td>1705.3</td>
<td>ONE SAMPLE PER STRENGTH TEST</td>
<td>OWNER'S TESTING AGENCY</td>
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<tr>
<td>CONCRETE</td>
<td>TEMPERATURE</td>
<td>ASTM C1064</td>
<td>1705.3</td>
<td>ONE SAMPLE PER STRENGTH TEST</td>
<td>OWNER'S TESTING AGENCY</td>
<td></td>
</tr>
<tr>
<td>STEEL</td>
<td>HIGH-STRENGTH BOLTING</td>
<td>RCSC SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS, Sec. 7</td>
<td>1705.2</td>
<td>3 FASTENER ASSEMBLIES OF EACH COMBINATION OF DIAMETER, LENGTH, GRADE AND LOT</td>
<td>OWNER'S TESTING AGENCY</td>
<td></td>
</tr>
<tr>
<td>STRUCTURAL STEEL</td>
<td>ULTRASONIC OR RADIOGRAPHIC NONDESTRUCTIVE TESTING</td>
<td>AWS D1.1</td>
<td>1705.2</td>
<td>SECTION 05 05 23, WELDING</td>
<td>OWNER'S TESTING AGENCY</td>
<td>PERFORM RT OR UT ON GROOVE WELDS</td>
</tr>
<tr>
<td>REINFORCING STEEL</td>
<td>MAGNETIC PARTICLE NONDESTRUCTIVE TESTING</td>
<td>AWS D1.4</td>
<td>1705.3, 1903.1</td>
<td>SECTION 05 05 23, WELDING</td>
<td>OWNER'S TESTING AGENCY</td>
<td>PERFORM ON FILLET WELDS AND PARTIAL JOINT PENETRATION WELDS</td>
</tr>
</tbody>
</table>
TABLE 5
REQUIRED SPECIAL INSPECTION FOR WIND RESISTANCE FOR STRUCTURAL SYSTEMS
REFER TO SPECIFICATION SECTION 01 45 33

The Nominal Design Wind Speed (3-second-gust) for this Project is 116 mph.
The Wind Exposure is Category D.

<table>
<thead>
<tr>
<th>SYSTEM</th>
<th>2012 IBC CODE REFERENCE</th>
<th>STANDARD OR CODE</th>
<th>PERIODIC OWNER Furnished SPECIAL INSPECTION (SEE NOTE 1)</th>
<th>CONTINUOUS OWNER Furnished SPECIAL INSPECTION</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROOF CLADDING SYSTEM AND COMPONENTS</td>
<td>1705.10.3</td>
<td></td>
<td>X</td>
<td></td>
<td>NOTE 1</td>
</tr>
<tr>
<td>WALL CLADDING SYSTEM AND COMPONENTS</td>
<td>1705.10.3</td>
<td></td>
<td>X</td>
<td></td>
<td>NOTE 1</td>
</tr>
</tbody>
</table>

NOTES:

1. SPECIAL INSPECTIONS FOR WIND RESISTANCE ARE REQUIRED FOR BUILDINGS AND STRUCTURES CONSTRUCTED IN WIND EXPOSURE CATEGORY B, WHERE THE 3-SECOND-GUST NOMINAL DESIGN WIND SPEED IS 120 MPH OR GREATER, OR IN WIND EXPOSURE CATEGORIES C OR D, WHERE THE 3-SECOND-GUST NOMINAL DESIGN WIND SPEED IS 110 MPH OR GREATER.
PART 1 GENERAL

1.01 REFERENCES

A. The following is a list of standards which may be referenced in this section:


1.02 SUBMITTALS

A. Informational Submittals:

1. Copies of permits and approvals for construction as required by Laws and Regulations and governing agencies.
2. Temporary Utility Submittals:
   a. Electric power supply and distribution plans.
   b. Water supply and distribution plans.
3. Temporary Construction Submittals:
   a. Parking area plans.
   b. Contractor’s field office, storage yard, and storage building plans, including gravel surfaced area.
   c. Fencing and protective barrier locations and details.
   d. Staging area location plan.
   e. Traffic and Pedestrian Control and Routing Plans: As specified herein, and proposed revisions thereto.
   f. Plan for maintenance of existing plant operations.
4. Temporary Control Submittals:
   a. Noise control plan.
   b. Dust control plan.
   c. Plan for disposal of waste materials and intended haul routes.
1.03 MOBILIZATION

A. Mobilization shall include, but not be limited to, these principal items:

1. Obtaining required permits.
2. Moving Contractor’s field office and equipment required for first month operations onto Site.
3. Installing temporary construction power, wiring, and lighting facilities.
4. Providing onsite communication facilities, including telephones.
5. Providing onsite sanitary facilities and potable water facilities as specified and as required by Laws and Regulations, and governing agencies.
6. Arranging for and erection of Contractor’s work and storage yard.
7. Posting OSHA required notices and establishing safety programs and procedures.
8. Having Contractor’s superintendent at Site full time.

B. Use area designated for Contractor’s temporary facilities as shown on Drawings. No additional area is available at Site on Owner’s property for Contractor’s temporary facilities. Provide lands and access to lands for temporary facilities for use by Contractor for duration of Project, as needed.

1.04 PROTECTION OF WORK AND PROPERTY

A. Comply with Owner’s safety rules while on Owner’s property.

B. Keep Owner informed of all onsite accidents and related claims.

C. Use of Explosives: No blasting or use of explosives will be allowed onsite.

1.05 VEHICULAR TRAFFIC

A. Traffic Control Plan: Adhere to traffic control plan reviewed and accepted by Engineer. Changes to this plan shall be made only by written approval of Engineer. Secure approvals for necessary changes so as not to delay progress of the Work.

B. Traffic Routing Plan: Show sequences of construction affecting use of roadways, time required for each phase of the Work, provisions for decking over excavations and phasing of operations to provide necessary access, and plans for signing, barricading, and striping to provide passages for pedestrians and vehicles.
PART 2 PRODUCTS

2.01 PROJECT SIGN

A. Provide and maintain one, 8-foot-wide by 4-foot-high sign constructed of 3/4-inch exterior high density overlaid plywood. Sign shall bear name of Project, Owner, Contractor, Engineer, and other participating agencies. Lettering shall be blue applied on white background by an experienced sign painter. Paint shall be exterior type enamel. Information to be included will be provided by Engineer.

PART 3 EXECUTION

3.01 TEMPORARY UTILITIES

A. Power:

1. Electric power will be available at or near Site. Determine type and amount available and make arrangements for obtaining temporary electric power service, metering equipment, and pay costs for electric power used during Contract period, except for portions of the Work designated in writing by Engineer as substantially complete.

2. Cost of 120V and 240V electric power will be borne by Owner. Costs of greater voltage power will be borne by the Contractor. Costs of installing utilities and power will be borne by the Contractor.

B. Lighting: Provide temporary lighting to meet applicable safety requirements to allow erection, application, or installation of materials and equipment, and observation or inspection of the Work.

C. Heating, Cooling, and Ventilating:

1. Provide as required to maintain adequate environmental conditions to facilitate progress of the Work, to meet specified minimum conditions for installation of materials, and to protect materials, equipment, and finishes from damage because of temperature or humidity.

2. Provide adequate forced air ventilation of enclosed areas to cure installed materials, to dispense humidity, and to prevent hazardous accumulations of dust, fumes, vapors, or gases.

3. Pay costs of installation, maintenance, operation, removal, and fuel consumed.

4. Provide portable unit heaters, complete with controls, oil- or gas-fired, and suitably vented to outside as required for protection of health and property.
5. If permanent natural gas piping is used for temporary heating units, do not modify or reroute gas piping without approval of utility company. Provide separate gas metering as required by utility.

D. Water:

1. No construction or potable water is available at Site. Make arrangements for and bear costs of providing water required for construction purposes and for drinking by construction personnel during construction.

2. Hydrant Water:
   a. Is not available from nearby hydrants.
   b. Include costs to connect and transport water to construction areas in Contract Price.
   c. Provide temporary facilities and piping required to bring water to point of use and remove when no longer needed. Install an acceptable metering device and pay for water used at Owner’s current rate.

E. Sanitary and Personnel Facilities: Provide and maintain facilities for Contractor’s employees, Subcontractors, and other onsite employers’ employees. Service, clean, and maintain facilities and enclosures.

F. Fire Protection: Furnish and maintain on Site adequate firefighting equipment capable of extinguishing incipient fires. Comply with applicable parts of NFPA 241.

3.02 PROTECTION OF WORK AND PROPERTY

A. General:

1. Maintain in continuous service existing oil and gas pipelines, underground power, telephone or communication cable, water mains, irrigation lines, sewers, poles and overhead power, and other utilities encountered along line of the Work, unless other arrangements satisfactory to owners of said utilities have been made.

2. Where completion of the Work requires temporary or permanent removal or relocation of existing utility, coordinate activities with owner of said utility and perform work to their satisfaction.

3. Protect, shore, brace, support, and maintain underground pipes, conduits, drains, and other underground utility construction uncovered or otherwise affected by construction operations.

4. Keep fire hydrants and water control valves free from obstruction and available for use at all times.
5. In areas where Contractor’s operations are adjacent to or near a utility, such as gas, telephone, television, electric power, water, sewer, or irrigation system, and such operations may cause damage or inconvenience, suspend operations until arrangements necessary for protection have been made by Contractor.

6. Notify property owners and utility offices that may be affected by construction operation at least 2 days in advance: Before exposing a utility, obtain utility owner’s permission. Should service of utility be interrupted due to Contractor’s operation, notify proper authority immediately. Cooperate with said authority in restoring service as promptly as possible and bear costs incurred.

7. Do not impair operation of existing sewer system. Prevent construction material, pavement, concrete, earth, volatile and corrosive wastes, and other debris from entering sewers, pump stations, or other sewer structures.

8. Maintain original Site drainage wherever possible.

B. Site Security:

1. Erect a temporary security fence at locations shown on Drawings for protection of existing facilities. Maintain fence throughout construction period. Obtain Engineer’s written permission before removal of temporary security fencing.

2. Provide and maintain additional temporary security fences as necessary to protect the Work and Contractor-furnished products not yet installed.

C. Barricades and Lights:

1. Provide as required to safeguard public and the Work.

2. Provide as necessary to prevent unauthorized entry to construction areas and affected roads, streets, and alleyways, inside and outside of fenced area, and as required to ensure public safety and the safety of Contractor’s employees, other employer’s employees, and others who may be affected by the Work.

3. Provide to protect existing facilities and adjacent properties from potential damage.

4. Locate to enable access by facility operators and property owners.

5. Protect streets, roads, highways, and other public thoroughfares that are closed to traffic by effective barricades with acceptable warning signs.

6. Locate barricades at the nearest intersecting public thoroughfare on each side of blocked section.

7. Illuminate barricades and obstructions with warning lights from sunset to sunrise.
D. Signs and Equipment:

1. Conform to requirements of manual published by the Virginia Department of Transportation.
2. Provide at obstructions, such as material piles and equipment.
3. Use to alert general public of construction hazards, which would include surface irregularities, unramped walkways, grade changes, and trenches or excavations in roadways and in other public access areas.

E. Waterways: Keep ditches, culverts, and natural drainages continuously free of construction materials and debris.

F. Dewatering: Construct, maintain, and operate cofferdams, channels, flume drains, sumps, pumps, or other temporary diversion and protection works. Furnish materials required, install, maintain, and operate necessary pumping and other equipment for the environmentally safe removal and disposal of water from the various parts of the Work. Maintain foundations and parts of the Work free from water.

G. Archaeological Finds:

1. General: Should finds of an archaeological or paleontological nature be made within Site limits, immediately notify Owner and Engineer and proceed in accordance with General Conditions. Continue the Work in other areas without interruption.
2. Archaeological Finds: Evidence of human occupation or use of an area within contract limits prior to the Year 1840. Evidence may consist of skeletons, stone, or other utensils, or evidence of habitations or structures.
3. Paleontological Finds: Evidence of prehistoric plant or animal life, such as skeletons, bones, fossils, or casts and other indications such as pictographs.
4. Owner may order the Work stopped in other areas if, in Owner’s opinion, find is more extensive than may appear from uncovered material.
5. Protection of Finds:
   a. Cover, fence, or otherwise protect finds until notice to resume the Work is given.
   b. Cover finds with plastic film held in place by earth, rocks, or other weights placed outside the find. Should additional backfilling be necessary for safety or to prevent caving, place backfill material loosely over plastic film.
   c. Sheet or shore as necessary to protect excavations underway. Place temporary fence to prevent unauthorized access.
d. Dewater finds made below water table as necessary to protect construction Work underway. Divert groundwater or surface runoff away from find by ditching or other acceptable means.

6. Removal of Finds:
   a. Finds are property of Owner. Do not remove or disturb finds without Owner’s written authorization.
   b. Should Owner elect to have a find removed, provide equipment, labor, and material to permit safe removal of find without damage. Provide transportation for delivery to individuals, institutions, or other places as Owner may find desirable, expedient, or required by law.

H. Endangered and Threatened Species:
   1. Take precautions necessary and prudent to protect native endangered and threatened flora and fauna.
   2. Notify Engineer of construction activities that might threaten endangered and threatened species or their habitats.
   3. Engineer will mark areas known as habitats of endangered and threatened species prior to commencement of onsite activities.
   4. Additional areas will be marked by Engineer as other habitats of endangered and threatened species become known during construction.

3.03 TEMPORARY CONTROLS

A. Air Pollution Control:
   1. Minimize air pollution from construction operations.
   2. Burning of waste materials, rubbish, or other debris will not be permitted on or adjacent to Site.
   3. Conduct operations of dumping rock and of carrying rock away in trucks to cause a minimum of dust. Give unpaved streets, roads, detours, or haul roads used in construction area a dust-preventive treatment or periodically water to prevent dust. Strictly adhere to applicable environmental regulations for dust prevention.
   4. Provide and maintain temporary dust-tight partitions, bulkheads, or other protective devices during construction to permit normal operation of existing facilities. Construct partitions of plywood, insulating board, plastic sheets, or similar material. Construct partitions in such a manner that dust and dirt from demolition and cutting will not enter other parts of existing building or facilities. Remove temporary partitions as soon as need no longer exists.
B. Noise Control:

1. Provide acoustical barriers so noise emanating from tools or equipment will not exceed legal noise levels.
2. Noise Control Plan: Propose plan to mitigate construction noise and to comply with noise control ordinances, including method of construction, equipment to be used, and acoustical treatments.

C. Water Pollution Control:

1. Divert sanitary sewage and nonstorm waste flow interfering with construction and requiring diversion to sanitary sewers. Do not cause or permit action to occur which would cause an overflow to existing waterway.
2. Prior to commencing excavation and construction, obtain Engineer’s agreement with detailed plans showing procedures intended to handle and dispose of sewage, groundwater, and dewatering pump discharges.
3. Comply with Section 01 57 13, Temporary Erosion and Sedimentation Control, for stormwater flow and surface runoff.
4. Do not dispose of volatile wastes such as mineral spirits, oil, chemicals, or paint thinner in storm or sanitary drains. Disposal of wastes into streams or waterways is prohibited. Provide acceptable containers for collection and disposal of waste materials, debris, and rubbish.

D. Erosion, Sediment, and Flood Control: Provide, maintain, and operate temporary facilities as specified in Section 01 57 13, Temporary Erosion and Sedimentation Control, to control erosion and sediment releases, and to protect the Work and existing facilities from flooding during construction period.

3.04 STORAGE YARDS AND BUILDINGS

A. Coordinate requirements with Section 01 61 00, Common Product Requirements.

B. Temporary Storage Yards: Construct temporary storage yards for storage of products that are not subject to damage by weather conditions.

C. Temporary Storage Buildings:

1. Provide environmental control systems that meet recommendations of manufacturers of equipment and materials stored.
2. Arrange or partition to provide security of contents and ready access for inspection and inventory.
3. Store combustible materials (paints, solvents, fuels) in a well-ventilated and remote building meeting safety standards.

3.05 ACCESS ROADS

A. Construct access roads as shown and within easements, rights-of-way, or Project limits. Use existing roads where shown.

B. Maintain drainage ways. Install and maintain culverts to allow water to flow beneath access roads. Provide corrosion-resistant culvert pipe of adequate strength to resist construction loads.

C. Provide gravel, crushed rock, or other stabilization material to permit access by all motor vehicles at all times.

D. Maintain road grade and crown to eliminate potholes, rutting, and other irregularities that restrict access.

E. Coordinate with Engineer detours and other operations affecting traffic and access. Provide at least 72 hours’ notice to Engineer of operations that will alter access to Site.

F. Upon completion of construction, leave access roads in condition suitable for future use by Owner. Replace damaged or broken culverts with new culvert pipe of same diameter and material.

3.06 PARKING AREAS

A. Control vehicular parking to preclude interference with public traffic or parking, access by emergency vehicles, Owner’s operations, or construction operations.

B. Provide parking facilities for personnel working on Project. No employee or equipment parking will be permitted on Owner’s existing paved areas, except as specifically designated for Contractor’s use.

3.07 VEHICULAR TRAFFIC

A. Comply with Laws and Regulations regarding closing or restricting use of public streets or highways. No public or private road shall be closed, except by written permission of proper authority. Ensure the least possible obstruction to traffic and normal commercial pursuits.

B. Conduct the Work to interfere as little as possible with public travel, whether vehicular or pedestrian.
C. Whenever it is necessary to cross, close, or obstruct roads, driveways, and walks, whether public or private, provide and maintain suitable and safe bridges, detours, or other temporary expedients for accommodation of public and private travel.

D. Road Closures: Maintain satisfactory means of exit for persons residing or having occasion to transact business along route of the Work. If it is necessary to close off roadway or alley providing sole vehicular access to property for periods greater than 2 hours, provide written notice to each owner so affected 3 days prior to such closure. In such cases, closings of up to 4 hours may be allowed. Closures of up to 10 hours may be allowed if a week’s written notice is given and undue hardship does not result.

E. Maintenance of traffic is not required if Contractor obtains written permission from Owner and tenant of private property, or from authority having jurisdiction over public property involved, to obstruct traffic at designated point.

F. In making street crossings, do not block more than one-half the street at a time. Whenever possible, widen shoulder on opposite side to facilitate traffic flow. Provide temporary surfacing on shoulders as necessary.

G. Maintain top of backfilled trenches before they are paved, to allow normal vehicular traffic to pass over. Provide temporary access driveways where required. Cleanup operations shall follow immediately behind backfilling.

H. When flaggers and guards are required by regulation or when deemed necessary for safety, furnish them with approved orange wearing apparel and other regulation traffic control devices.

I. Provide snow removal to facilitate normal vehicular traffic on public or private roads affected by construction. Perform snow removal promptly and efficiently by means of suitable equipment whenever necessary for safety, and as may be directed by proper authority.

J. Notify fire department and police department before closing street or portion thereof. Notify said departments when streets are again passable for emergency vehicles. Do not block off emergency vehicle access to consecutive arterial crossings or dead-end streets, in excess of 300 linear feet, without written permission from fire department. Conduct operations with the least interference to fire equipment access, and at no time prevent such access. Furnish Contractor’s night emergency telephone numbers to police department.
K. Coordinate traffic routing with that of others working in same or adjacent areas.

3.08 CLEANING DURING CONSTRUCTION

A. In accordance with General Conditions, as may be specified in other Specification sections, and as required herein.

B. Wet down exterior surfaces prior to sweeping to prevent blowing of dust and debris. At least weekly, sweep floors (basins, tunnels, platforms, walkways, roof surfaces), and pick up and dispose of debris.

C. Provide approved containers for collection and disposal of waste materials, debris, and rubbish. At least weekly, dispose of such waste materials, debris, and rubbish offsite.

D. At least weekly, brush sweep entry drive, roadways, and other streets and walkways affected by the Work and where adjacent to the Work.

END OF SECTION
PART I    GENERAL

1.01    SUMMARY OF WORK

A. The Contractor will be the responsible party to obtain the land disturbance activity permit from the applicable regulatory authority.

B. This section covers Work necessary for stabilization of soil to prevent erosion during construction and land disturbing activities. The Work shall include the furnishing of all labor, materials, tools, and equipment to perform the Work and services necessary as herein specified and as indicated on the Drawings. This shall include installation, maintenance, and final removal of all temporary soil erosion and sediment control measures.

C. The minimum areas requiring soil erosion and sediment control measures are indicated on the Drawings. All erosion control practices require ongoing maintenance to function properly. The Contractor is responsible for adapting practices or providing additional practices in accordance with its means and methods of construction and as required to prevent sediment movement beyond the limits of disturbance.

1.02    GENERAL

A. See Conditions of the Contract and Division 1, General Requirements, which contain information and requirements that apply to the Work specified herein and are mandatory for this project.

B. All activities shall conform to the Standard Erosion Control Specification: Virginia Erosion and Sediment Control Handbook (VESCH), latest version; Erosion Control Technical Bulletins No. 1 and No. 4 (http://www.dcr.state.us/sw/e&s.htm#pubs) and the Drawings. In the event of a conflict, the more stringent requirement shall apply.

C. The sections of the Standard Erosion Control Specifications referenced include, but are not limited to:

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<td>Silt Fence</td>
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D. Responsible Land Disturber (RLD):

1. The Contractor must obtain and maintain RLD certification from the Virginia Department of Environmental Protection throughout the duration of the project. Explanation of the program, online training and exam are available at: [http://www.deq.virginia.gov/ConnectWithDEQ/TrainingCertification/RLDGeneralInformation.aspx](http://www.deq.virginia.gov/ConnectWithDEQ/TrainingCertification/RLDGeneralInformation.aspx)

2. The RLD is responsible to maintain the construction stormwater pollution prevention plan (SWPPP) documentation, which includes copies of the approved erosion control plan, land disturbance activity permit, Virginia stormwater permit (VSMP), and the Contractor's inspection records.

3. SWPPP inspection records shall be prepared, at the interval required by the 2014 VESCH:
   a. Inspections shall be conducted at a frequency of (i) at least once every 4 business days, or (ii) at least once every 5 business days and no later than 48 hours following a measurable storm event (0.25 inch in 24 hours). In the event that a measurable storm event occurs when there are more than 48 hours between business days, the inspection shall be conducted on the next business day.
   b. Records shall be signed and dated by the DEQ-certified RLD.

4. SWPPP inspection reports shall document whether erosion and sediment control measures are effective in preventing sediment and construction chemicals/materials from entering the storm system.

5. Based on inspection results, the locations, construction activities, and pollution prevention measures are modified as appropriate within 7 calendar days following the inspection. Corrective actions are documented in the SWPPP records.
E. Erosion control inspection records are to be included with other documentation constituting the construction SWPPP. Local, state, and federal inspectors may visit the site unannounced to audit site compliance and SWPPP record keeping. The Contractor is responsible for any fines or remedial action required by auditing inspectors.

F. Soil erosion stabilization and sedimentation control consist of the following elements:

1. Sequencing work to minimize duration of bare soil conditions in any area of the project. Each portion shall be temporarily stabilized as soon as possible, as opposed to leaving all stabilization work to be done at the same time at the end of the project.
   a. Temporary stabilization shall consist of temporary seeding and mulch/matting of vegetated areas, and base stone installation for paved areas.
   b. Permanent seeding as a single step of restoration may be used instead of temporary seeding.
2. Maintenance of existing permanent or temporary storm drainage piping and channel systems, as necessary.
3. Construction of new permanent and temporary storm drainage piping and channel systems, as necessary.
4. Construction of temporary erosion control facilities such as silt fences, check dams, etc.
5. Topsoil and Seeding: Placement and maintenance of temporary seeding on all areas disturbed by construction.
6. Soil Stabilization Seeding: Placement of fertilizer and seed, etc., in areas as specified hereinafter.

G. The Contractor shall be responsible for phasing Work in areas allocated for his exclusive use during this Project, including any proposed stockpile areas, to restrict sediment transport. This will include installation of any temporary erosion control devices, ditches, or other facilities.

H. Areas set aside for the Contractor’s use during the Project may be temporarily developed to provide satisfactory working, staging, and administrative areas for his exclusive use. Preparation of these areas shall be in accordance with other requirements contained within these Specifications and erosion control regulations, and shall be done in a manner to both control all sediment transport away from the area.

I. Sediment transport and erosion from working stockpiles shall be controlled and restricted from moving beyond the immediate stockpile area by construction of silt fences, as necessary. The Contractor shall keep these
temporary facilities in operational condition by regular cleaning, regrading, and maintenance.

J. The Contractor shall maintain all elements of the soil erosion stabilization and sedimentation control systems and facilities to be constructed during this Project for the duration of his activities on this Project.

K. All erosion control practices shall be cleaned of collected sediment after every storm or as determined from the regular inspections. Cleaning shall be done in a manner that will not direct the sediment into the storm drain piping system. Removed sediment shall be taken to an area selected by the Engineer where it can be cleaned of sticks and debris, then allowed to dry. Final sediment and debris disposal shall be onsite within the limits of disturbance.

1.03 SUBMITTALS

A. Submittals shall be made in accordance with Section 01 33 00, Submittal Procedures.

B. Informational Submittals: Contractor shall provide the following specific information.

1. Name, certificate number, expiration date, and mobile phone number of the RLD.
2. Copy of the Land Disturbance Activity permit.
3. Certificates of inspection of seed by state or federal authorities and copies of delivery invoices or other proof of quantities of fertilizer.
4. Manufacturer’s certificate of compliance attesting that the geotextile meets the requirements of these Specifications.

PART 2 PRODUCTS

2.01 SOIL STABILIZATION AND TEMPORARY SEED

A. As shown on the Drawings on the Erosion Control Narrative sheet.

2.02 TOPSOIL

A. Topsoil shall be native material and as approved by the Engineer.

2.03 FERTILIZER

A. Fertilizer shall be commercial, chemical type, uniform in composition, free-flowing, conforming to state and federal laws, and suitable for application with equipment designed for that purpose.
B. Fertilizer content shall be as shown on the Drawings on the Erosion Control Narrative sheet.

2.04 LIME

A. Ground dolomitic limestone not less than 85 percent total carbonates and magnesium, ground so that 50 percent passes through a 100-mesh sieve and 90 percent passes a 20-mesh sieve. Coarser material will be acceptable provided the specified rates of application are increased proportionately on the basis of quantities passing the 100-mesh sieve.

2.05 STRAW MULCH

A. Threshed straw of oats, wheat, barley, or rye; free from seed of noxious weeds, or clean salt hay.

PART 3 EXECUTION

3.01 GENERAL

A. The Contractor shall install erosion and sediment control measures and maintain in accordance with the Drawings. The sequence of construction shown on the Drawings is a part of these Contract Documents.

B. The Contractor shall provide and maintain temporary seeding at all times.

3.02 SILT FENCE INSTALLATION

A. Install prior to starting earth disturbing activities.

B. Construct in accordance with manufacturer’s instructions.

C. Install geotextile in one piece, or continuously sewn to make one piece, for full length and height of fence, including portion of geotextile buried in toe trench. Take precaution not to puncture geotextile during installation.

D. Install bottom edge of sheet in toe trench and backfill in a way that securely anchors geotextile in trench.

E. Fasten wire mesh material support fence securely to upslope side of post fasteners. Extend wire into the trench a minimum of 4 inches, and not more than 34 inches above ground surface.

F. Securely fasten geotextile to wire mesh and each support post in a way that will not result in tearing of geotextile when fence is subjected to service loads.
G. When joints are necessary, splice geotextile together only at support post, with a minimum 6-inch overlap, and securely fasten both ends to support post.

H. Geotextile shall not extend more than 34 inches above ground surface. Securely fasten to upslope side of each support post using ties. Do not staple geotextile to existing trees.

I. Remove after upslope area has been permanently stabilized.

3.03 TEMPORARY SEEDING

A. Schedules:
   1. Perform temporary seeding in accordance with the following schedule:
      a. Summer Seeding: Between March 15 and June 15, or September 1 to November 15.
      b. Winter Seeding: Other times of year, except when weather conditions prohibit further construction operations as determined by Engineer.

B. Soil Stabilization Seeding:
   1. Consists of application of the following materials in quantities as further described herein for stockpiles and disturbed areas left inactive for more than 14 days.
      a. Lime.
      b. Fertilizer.
      c. Seed.
      d. Mulch or matting.
      e. Maintenance.
   2. Hydroseeding is acceptable method of applying seed and associated soil conditioning agents described above.
   3. Place and maintain over disturbed areas. Maintain until such time as areas are approved for permanent seeding. As a minimum, maintenance shall include the following:
      a. Fix up and reseeding of bare areas or redisturbed areas.
      b. Mowing stands of grass or weeds exceeding 6 inches in height.

3.04 FIELD QUALITY CONTROL

A. Conduct inspections jointly with Engineer every 2 weeks to evaluate conformance to requirements of Specifications.
3.05 MAINTENANCE

A. Promptly repair or replace silt fence that becomes damaged.

B. Provide and maintain soil stabilization seeding at all times.

C. Silt Traps:
   1. Clean silt traps of collected sediment after every storm or as determined from biweekly inspections.
   2. Perform cleaning in a manner that will not direct sediment into storm drain piping system.
   3. Take removed sediment to area selected by Engineer where it can be cleaned of sticks and debris, then allowed to dry.
   4. Dispose of final sediment onsite as designated by Engineer.
   5. Dispose of debris offsite.

D. Regrade unpaved earth drainage ditches as needed to maintain original grade and remove sediment buildup. If ditch becomes difficult to maintain, install additional erosion control devices such as check dams, temporary paving, or silt fences as directed by Engineer.

E. Inspect, repair, and replace as necessary erosion control measures during the time period from start of construction to completion of construction.

F. If Contractor has not complied with above maintenance efforts to satisfaction of Engineer within 2 working days after receiving written notification from Engineer, Owner will have prerogative of engaging others to perform needed maintenance or cleanup, including removal of accumulated sediment, and deduct costs for such efforts plus a $500 administration fee from Contractor’s monthly partial payment.

3.06 CLEANING

A. Dress sediment deposits remaining after fence has been removed to conform to existing grade. Prepare and seed graded area.

END OF SECTION
SECTION 01 61 00
COMMON PRODUCT REQUIREMENTS

PART 1   GENERAL

1.01   DEFINITIONS

A.   Products:

1.   Includes the terms material, equipment, machinery, components, subsystem, system, hardware, software, and terms of similar intent and is not intended to change meaning of such other terms used in Contract Documents, as those terms are self-explanatory and have well-recognized meanings in construction industry.

2.   Items identified by manufacturer’s product name, including make or model designation, indicated in manufacturer’s published product literature, that is current as of the date of the Contract Documents.

1.02   DESIGN REQUIREMENTS

A.   Where Contractor design is specified, design of installation, systems, equipment, and components, including supports and anchorage, shall be in accordance with provisions of latest edition of International Building Code (IBC) by International Code Council.

B.   Design Criteria: See general structural notes on Drawings.

1.03   ENVIRONMENTAL REQUIREMENTS

A.   Altitude: Provide materials and equipment suitable for installation and operation under rated conditions at 20 feet above sea level.

B.   Provide equipment and devices installed outdoors or in unheated enclosures capable of continuous operation within an ambient temperature range of 20 to 110 degrees F.

1.04   PREPARATION FOR SHIPMENT

A.   When practical, factory assemble products. Mark or tag separate parts and assemblies to facilitate field assembly. Cover machined and unpainted parts that may be damaged by the elements with strippable protective coating.

B.   Package products to facilitate handling and protect from damage during shipping, handling, and storage. Mark or tag outside of each package or crate to indicate its purchase order number, bill of lading number, contents by
name, name of Project and Contractor, equipment number, and approximate weight. Include complete packing list and bill of materials with each shipment.

C. Extra Materials, Special Tools, Test Equipment, and Expendables:

1. Furnish as required by individual Specifications.
2. Schedule:
   a. Ensure that shipment and delivery occurs concurrent with shipment of associated equipment.
   b. Transfer to Owner shall occur immediately subsequent to Contractor’s acceptance of equipment from supplier.
3. Packaging and Shipment:
   a. Package and ship extra materials and special tools to avoid damage during long term storage in original cartons insofar as possible, or in appropriately sized, hinged-cover, wood, plastic, or metal box.
   b. Prominently displayed on each package, the following:
      1) Manufacturer’s part nomenclature and number, consistent with operation and maintenance manual identification system.
      2) Applicable equipment description.
      3) Quantity of parts in package.
      4) Equipment manufacturer.
4. Deliver materials to Site.
5. Notify Engineer upon arrival for transfer of materials.
6. Replace extra materials and special tools found to be damaged or otherwise inoperable at time of transfer to Owner.

D. Factory Test Results: Reviewed and accepted by Engineer before product shipment as required in individual Specification sections.

1.05 DELIVERY AND INSPECTION

A. Deliver products in accordance with accepted current progress schedule and coordinate to avoid conflict with the Work and conditions at Site. Deliver anchor bolts and templates sufficiently early to permit setting prior to placement of structural concrete.

B. Deliver products in undamaged condition, in manufacturer’s original container or packaging, with identifying labels intact and legible. Include on label, date of manufacture and shelf life, where applicable.
C. Unload products in accordance with manufacturer’s instructions for unloading or as specified. Record receipt of products at Site. Promptly inspect for completeness and evidence of damage during shipment.

D. Remove damaged products from Site and expedite delivery of identical new undamaged products, and remedy incomplete or lost products to provide that specified, so as not to delay progress of the Work.

1.06 HANDLING, STORAGE, AND PROTECTION

A. Handle and store products in accordance with manufacturer’s written instructions and in a manner to prevent damage. Store in approved storage yards or sheds provided in accordance with Section 01 50 00, Temporary Facilities and Controls. Provide manufacturer’s recommended maintenance during storage, installation, and until products are accepted for use by Owner.

B. Manufacturer’s instructions for material requiring special handling, storage, or protection shall be provided prior to delivery of material.

C. Arrange storage in a manner to provide easy access for inspection. Make periodic inspections of stored products to assure that products are maintained under specified conditions, and free from damage or deterioration. Keep running account of products in storage to facilitate inspection and to estimate progress payments for products delivered, but not installed in the Work.

D. Store electrical, instrumentation, and control products, and equipment with bearings in weather-tight structures maintained above 60 degrees F. Protect electrical, instrumentation, and control products, and insulate against moisture, water, and dust damage. Connect and operate continuously space heaters furnished in electrical equipment.

E. Store fabricated products above ground on blocking or skids, and prevent soiling or staining. Store loose granular materials in well-drained area on solid surface to prevent mixing with foreign matter. Cover products that are subject to deterioration with impervious sheet coverings; provide adequate ventilation to avoid condensation.

F. Store finished products that are ready for installation in dry and well-ventilated areas. Do not subject to extreme changes in temperature or humidity.

G. After installation, provide coverings to protect products from damage due to traffic and construction operations. Remove coverings when no longer needed.

PART 2   PRODUCTS

2.01   GENERAL

A. Provide manufacturer’s standard materials suitable for service conditions, unless otherwise specified in the individual Specifications.

B. Where product specifications include a named manufacturer, with or without model number, and also include performance requirements, named manufacturer’s products must meet the performance specifications.

C. Like items of products furnished and installed in the Work shall be end products of one manufacturer and of the same series or family of models to achieve standardization for appearance, operation and maintenance, spare parts and replacement, manufacturer’s services, and implement same or similar process instrumentation and control functions in same or similar manner.

D. Do not use materials and equipment removed from existing premises, except as specifically permitted by Contract Documents.

E. Provide interchangeable components of the same manufacturer, for similar components, unless otherwise specified.

F. Equipment, Components, Systems, and Subsystems: Design and manufacture with due regard for health and safety of operation, maintenance, and accessibility, durability of parts, and shall comply with applicable OSHA, state, and local health and safety regulations.

G. Regulatory Requirement: Coating materials shall meet federal, state, and local requirements limiting the emission of volatile organic compounds and for worker exposure.

H. Safety Guards: Provide for all belt or chain drives, fan blades, couplings, or other moving or rotary parts. Cover rotating part on all sides. Design for easy installation and removal. Use 16-gauge or heavier; galvanized steel, aluminum coated steel, or galvanized or aluminum coated 1/2-inch mesh expanded steel. Provide galvanized steel accessories and supports, including bolts. For outdoors application, prevent entrance of rain and dripping water.
I. Authority Having Jurisdiction (AHJ):

1. Provide the Work in accordance with NFPA 70, National Electrical Code (NEC). Where required by the AHJ, material and equipment shall be labeled or listed by a nationally recognized testing laboratory or other organization acceptable to the AHJ in order to provide a basis for approval under NEC.

2. Materials and equipment manufactured within the scope of standards published by Underwriters Laboratories, Inc. shall conform to those standards and shall have an applied UL listing mark.

J. Equipment Finish:

1. Provide manufacturer’s standard finish and color, except where specific color is indicated.

2. If manufacturer has no standard color, provide equipment with gray finish as approved by Owner.

K. Special Tools and Accessories: Furnish to Owner, upon acceptance of equipment, all accessories required to place each item of equipment in full operation. These accessory items include, but are not limited to, valve keys, handwheels, special tools, and other spare parts as required for maintenance.

L. Lubricant: Provide initial lubricant recommended by equipment manufacturer in sufficient quantity to fill lubricant reservoirs and to replace consumption during testing, startup, and operation until final acceptance by Owner.

2.02 FABRICATION AND MANUFACTURE

A. General:

1. Manufacture parts to U.S.A. standard sizes and gauges.

2. Two or more items of the same type shall be identical, by the same manufacturer, and interchangeable.

3. Design structural members for anticipated shock and vibratory loads.

4. Use 1/4-inch minimum thickness for steel that will be submerged, wholly or partially, during normal operation.

5. Modify standard products as necessary to meet performance Specifications.

B. Lubricant System:

1. Require no more than weekly attention during continuous operation.

2. Convenient and accessible; oil drains with bronze or stainless steel valves and fill-plugs easily accessible from the normal operating area or...
platform. Locate drains to allow convenient collection of oil during oil changes without removing equipment from its installed position.

3. Provide constant-level oilers or oil level indicators for oil lubrication systems.

4. For grease-type bearings that are not easily accessible, provide and install stainless steel tubing; protect and extend tubing to convenient location with suitable grease fitting.

2.03 SOURCE QUALITY CONTROL

A. Where Specifications call for factory testing to be witnessed by Engineer, notify Engineer not less than 14 days prior to scheduled test date, unless otherwise specified.

B. Calibration Instruments: Bear the seal of a reputable laboratory certifying instrument has been calibrated within the previous 12 months to a standard endorsed by the National Institute of Standards and Technology (NIST).

C. Factory Tests: Perform in accordance with accepted test procedures and document successful completion.

PART 3 EXECUTION

3.01 INSPECTION

A. Inspect materials and equipment for signs of pitting, rust decay, or other deleterious effects of storage. Do not install material or equipment showing such effects. Remove damaged material or equipment from the Site and expedite delivery of identical new material or equipment. Delays to the Work resulting from material or equipment damage that necessitates procurement of new products will be considered delays within Contractor’s control.

3.02 INSTALLATION

A. Equipment Drawings show general locations of equipment, devices, and raceway, unless specifically dimensioned.

B. No shimming between machined surfaces is allowed.

C. Install the Work in accordance with NECA Standard of Installation, unless otherwise specified.

D. Repaint painted surfaces that are damaged prior to equipment acceptance.

E. Do not cut or notch any structural member or building surface without specific approval of Engineer.
F. Handle, install, connect, clean, condition, and adjust products in accordance with manufacturer’s instructions, and as may be specified. Retain a copy of manufacturers’ instruction at Site, available for review at all times.

G. For material and equipment specifically indicated or specified to be reused in the Work:

1. Use special care in removal, handling, storage, and reinstallation to assure proper function in the completed Work.
2. Arrange for transportation, storage, and handling of products that require offsite storage, restoration, or renovation. Include costs for such Work in the Contract Price.

3.03 FIELD FINISHING

A. In general, field finishing of equipment will not be allowed. Minor touchup will be allowed as approved and recommended by manufacturer.

3.04 ADJUSTMENT AND CLEANING

A. Perform required adjustments, tests, operation checks, and other startup activities.

3.05 LUBRICANTS

A. Fill lubricant reservoirs and replace consumption during testing, startup and operation prior to acceptance of equipment by Owner.

END OF SECTION
PART 1   GENERAL

1.01 SUBMITTALS
   A. Informational Submittals:
      1. Submit prior to application for final payment.
         a. Record Documents: As required in General Conditions.
         b. Special bonds, special guarantees, and service agreements.
         c. Consent of Surety to Final Payment: As required in General Conditions.
         d. Releases or Waivers of Liens and Claims: As required in General Conditions.
         e. Releases from agreements.
         f. Final Application for Payment: Submit in accordance with procedures and requirements stated in Section 01 29 00, Payment Procedures.
         g. Extra Materials: As required by individual Specification sections.

1.02 RECORD DOCUMENTS
   A. Quality Assurance:
      1. Furnish qualified and experienced person, whose duty and responsibility shall be to maintain record documents.
      2. Accuracy of Records:
         a. Coordinate changes within record documents, making legible and accurate entries on each sheet of Drawings and other documents where such entry is required to show change.
         b. Purpose of Project record documents is to document factual information regarding aspects of the Work, both concealed and visible, to enable future modification of the Work to proceed without lengthy and expensive Site measurement, investigation, and examination.
      3. Make entries within 24 hours after receipt of information that a change in the Work has occurred.
      4. Prior to submitting each request for progress payment, request Engineer’s review and approval of current status of record documents. Failure to properly maintain, update, and submit record documents may result in a deferral by Engineer to recommend whole or any part of Contractor’s Application for Payment, either partial or final.
1.03 RELEASES FROM AGREEMENTS

A. Furnish Owner written releases from property owners or public agencies where side agreements or special easements have been made, or where Contractor’s operations have not been kept within the Owner’s construction right-of-way.

B. In the event Contractor is unable to secure written releases:
   1. Inform Owner of the reasons.
   2. Owner or its representatives will examine the Site, and Owner will direct Contractor to complete the Work that may be necessary to satisfy terms of the side agreement or special easement.
   3. Should Contractor refuse to perform this Work, Owner reserves right to have it done by separate contract and deduct cost of same from Contract Price, or require Contractor to furnish a satisfactory bond in a sum to cover legal Claims for damages.
   4. When Owner is satisfied that the Work has been completed in agreement with Contract Documents and terms of side agreement or special easement, right is reserved to waive requirement for written release if: (i) Contractor’s failure to obtain such statement is due to grantor’s refusal to sign, and this refusal is not based upon any legitimate Claims that Contractor has failed to fulfill terms of side agreement or special easement, or (ii) Contractor is unable to contact or has had undue hardship in contacting grantor.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 MAINTENANCE OF RECORD DOCUMENTS

A. General:
   1. Promptly following commencement of Contract Times, secure from Engineer at no cost to Contractor, one complete set of Contract Documents. Drawings will be full size.
   2. Label or stamp each record document with title, “RECORD DOCUMENTS,” in neat large printed letters.
   3. Record information concurrently with construction progress and within 24 hours after receipt of information that change has occurred. Do not cover or conceal Work until required information is recorded.
B. Preservation:

1. Maintain documents in a clean, dry, legible condition and in good order. Do not use record documents for construction purposes.
2. Make documents and samples available at all times for observation by Engineer.

C. Making Entries on Drawings:

1. Using an erasable colored pencil (not ink or indelible pencil), clearly describe change by graphic line and note as required.
   a. Color Coding:
      1) Green when showing information deleted from Drawings.
      2) Red when showing information added to Drawings.
      3) Blue and circled in blue to show notes.

2. Date entries.
3. Call attention to entry by “cloud” drawn around area or areas affected.
4. Legibly mark to record actual changes made during construction, including, but not limited to:
   a. Depths of various elements of foundation in relation to finished first floor data if not shown or where depth differs from that shown.
   b. Horizontal and vertical locations of new facilities and appurtenances, and other existing underground structures, equipment, or Work. The following features shall require survey grade coordinates obtained by a surveyor licensed in the Commonwealth of Virginia. All other new features shall reference to at least two measurements to permanent surface improvements.
      1) Valves and line stop plugs.
      2) Concrete slab corners.
   c. Location of internal utilities and appurtenances concealed in the construction referenced to visible and accessible features of the structure.
   d. Locate existing facilities, piping, equipment, and items critical to the interface between existing physical conditions or construction and new construction.
   e. Changes made by Addenda and Field Orders, Work Change Directive, Change Order, and Engineer’s written interpretation and clarification using consistent symbols for each and showing appropriate document tracking number.
5. Dimensions on Schematic Layouts: Show on record drawings, by dimension, the centerline of each run of items such as are described in previous subparagraph.
   a. Clearly identify the item by accurate note such as “cast iron drain,” “galv. water,” and the like.
   b. Show, by symbol or note, vertical location of item (“under slab,” “in ceiling plenum,” “exposed,” and the like).
   c. Make identification so descriptive that it may be related reliably to Specifications.

3.02 FINAL CLEANING AND RESTORATION

A. At completion of the Work or of a part thereof and immediately prior to Contractor’s request for certificate of Substantial Completion; or if no certificate is issued, immediately prior to Contractor’s notice of completion, clean entire Site or parts thereof, as applicable.

   1. Leave the Work and adjacent areas affected in a cleaned condition satisfactory to Owner.
   2. Remove grease, dirt, dust, paint or plaster splatter, stains, labels, fingerprints, and other foreign materials from exposed surfaces.
   3. Repair, patch, and touch up marred surfaces to specified finish and match adjacent surfaces.
   4. Clean all windows.
   5. Clean and wax wood, vinyl, or painted floors.
   6. Broom clean exterior paved driveways and parking areas.
   7. Hose clean sidewalks, loading areas, and others contiguous with principal structures.
   8. Rake clean all other surfaces.
   9. Remove snow and ice from access to buildings.
   10. Replace air-handling filters and clean ducts, blowers, and coils of ventilation units operated during construction.
   11. Leave water courses, gutters, and ditches open and clean.
   12. Restore site to original condition. Seed as needed.

B. Use only cleaning materials recommended by manufacturer of surfaces to be cleaned.

END OF SECTION
PART 1 GENERAL

1.01 SECTION INCLUDES

A. Detailed information for the preparation, submission, and Engineer’s review of operations and maintenance (O&M) data, as required by individual Specification sections.

1.02 DEFINITIONS

A. Preliminary Data: Initial and subsequent submissions for Engineer’s review.

B. Final Data: Engineer-accepted data, submitted as specified herein.

C. Maintenance Operation: As used on Maintenance Summary Form is defined to mean any routine operation required to ensure satisfactory performance and longevity of equipment. Examples of typical maintenance operations are lubrication, belt tensioning, adjustment of pump packing glands, and routine adjustments.

1.03 SEQUENCING AND SCHEDULING

A. Equipment and System Data:

1. Preliminary Data:
   a. Do not submit until Shop Drawing for equipment or system has been reviewed and approved by Engineer.
   b. Submit prior to shipment date.

2. Final Data: Submit instructional manual formatted data not less than 30 days prior to equipment or system field functional testing. Submit compilation formatted and electronic media formatted data prior to Substantial Completion of Project.

B. Materials and Finishes Data:

1. Preliminary Data: Submit at least 15 days prior to request for final inspection.

2. Final Data: Submit within 10 days after final inspection.
1.04 DATA FORMAT

A. Prepare preliminary data in the form of an instructional manual. Prepare final data in data compilation format and on electronic media.

B. Instructional Manual Format:

1. Binder: Commercial quality, permanent, three-ring or three-post binders with durable plastic cover.
2. Size: 8-1/2 inches by 11 inches, minimum.
3. Cover: Identify manual with typed or printed title “OPERATION AND MAINTENANCE DATA” and list:
   a. Project title.
   b. Designate applicable system, equipment, material, or finish.
   c. Identity of separate structure as applicable.
   d. Identify volume number if more than one volume.
   e. Identity of general subject matter covered in manual.
   f. Identity of equipment number and Specification section.
4. Spine:
   a. Project title.
   b. Identify volume number if more than one volume.
5. Title Page:
   a. Contractor name, address, and telephone number.
   b. Subcontractor, supplier, installer, or maintenance contractor’s name, address, and telephone number, as appropriate.
      1) Identify area of responsibility of each.
      2) Provide name and telephone number of local source of supply for parts and replacement.
6. Table of Contents:
   a. Neatly typewritten and arranged in systematic order with consecutive page numbers.
   b. Identify each product by product name and other identifying numbers or symbols as set forth in Contract Documents.

8. Text: Manufacturer’s printed data, or neatly typewritten.
9. Three-hole punch data for binding and composition; arrange printing so that punched holes do not obliterate data.
10. Material shall be suitable for reproduction, with quality equal to original. Photocopying of material will be acceptable, except for material containing photographs.

C. Data Compilation Format:

1. Compile all Engineer-accepted preliminary O&M data into a hard-copy, hard-bound set.
2. Each set shall consist of the following:
   a. Binder: Commercial quality, permanent, three-ring or three-post binders with durable plastic cover.
   b. Cover: Identify each volume with typed or printed title “OPERATION AND MAINTENANCE DATA, VOLUME NO. ___ OF ___”, and list:
      1) Project title.
      2) Contractor’s name, address, and telephone number.
      3) If entire volume covers equipment or system provided by one supplier include the following:
         4) Identity of general subject matter covered in manual.
         5) Identity of equipment number and Specification section.
   c. Provide each volume with title page and typed table of contents with consecutive page numbers. Place contents of entire set, identified by volume number, in each binder.
   d. Table of contents neatly typewritten, arranged in a systematic order:
      1) Include list of each product, indexed to content of each volume.
      2) Designate system or equipment for which it is intended.
      3) Identify each product by product name and other identifying numbers or symbols as set forth in Contract Documents.
   e. Section Dividers:
      1) Heavy, 80 pound cover weight, tabbed with numbered plastic index tabs.
      2) Fly-Leaf:
      3) For each separate product, or each piece of operating equipment, with typed description of product and major component parts of equipment.
      4) List with Each Product:
         a) Name, address, and telephone number of subcontractor, supplier, installer, and maintenance contractor, as appropriate.
         b) Identify area of responsibility of each.
         c) Provide local source of supply for parts and replacement.
      5) Identity of separate structure as applicable.
   f. Assemble and bind material, as much as possible, in same order as specified in the Contract Documents.
D. Electronic Media Format:

1. Portable Document Format (PDF):
   a. After all preliminary data has been found to be acceptable to Engineer, submit O&M data in PDF format on CD.
   b. Files to be exact duplicates of Engineer-accepted preliminary data. Arrange by specification number and name.
   c. Files to be fully functional and viewable in most recent version of Adobe Acrobat.

1.05 SUBMITTALS

A. Informational Submittals:

1. Data Outline: Submit two copies of a detailed outline of proposed organization and contents of final data prior to preparation of preliminary data.

2. Preliminary Data:
   a. Submit three copies for Engineer’s review.
   b. If data meets conditions of the Contract:
      1) One copy will be returned to Contractor.
      2) One copy will be forwarded to Resident Project Representative.
      3) One copy will be retained in Engineer’s file.
   c. If data does not meet conditions of the Contract:
      1) All copies will be returned to Contractor with Engineer’s comments (on separate document) for revision.
      2) Engineer’s comments will be retained in Engineer’s file.
      3) Resubmit three copies revised in accordance with Engineer’s comments.

3. Final Data: Submit five copies in format specified herein.

1.06 DATA FOR EQUIPMENT AND SYSTEMS

A. Content for Each Unit (or Common Units) and System:

1. Product Data:
   a. Include only those sheets that are pertinent to specific product.
   b. Clearly annotate each sheet to:
      1) Identify specific product or part installed.
      2) Identify data applicable to installation.
      3) Delete references to inapplicable information.
   c. Function, normal operating characteristics, and limiting conditions.
   d. Performance curves, engineering data, nameplate data, and tests.
e. Complete nomenclature and commercial number of replaceable parts.

f. Original manufacturer’s parts list, illustrations, detailed assembly drawings showing each part with part numbers and sequentially numbered parts list, and diagrams required for maintenance.

g. Spare parts ordering instructions.

h. Where applicable, identify installed spares and other provisions for future work (e.g., reserved panel space, unused components, wiring, terminals).

2. As-installed, color-coded piping diagrams.

3. Charts of valve tag numbers, with the location and function of each valve.

4. Drawings: Supplement product data with Drawings as necessary to clearly illustrate:
   a. Format:
      1) Provide reinforced, punched, binder tab; bind in with text.
      2) Reduced to 8-1/2 inches by 11 inches, or 11 inches by 17 inches folded to 8-1/2 inches by 11 inches.
      3) Where reduction is impractical, fold and place in 8-1/2-inch by 11-inch envelopes bound in text.
      4) Identify Specification section and product on Drawings and envelopes.
   b. Relations of component parts of equipment and systems.
   c. Control and flow diagrams.
   d. Coordinate drawings with Project record documents to assure correct illustration of completed installation.

5. Instructions and Procedures: Within text, as required to supplement product data.
   a. Format:
      1) Organize in consistent format under separate heading for each different procedure.
      2) Provide logical sequence of instructions for each procedure.
      3) Provide information sheet for Owner’s personnel, including:
      4) Proper procedures in event of failure.
      5) Instances that might affect validity of guarantee or Bond.
   b. Installation Instructions: Including alignment, adjusting, calibrating, and checking.
   c. Operating Procedures:
      1) Startup, break-in, routine, and normal operating instructions.
      2) Test procedures and results of factory tests where required.
      3) Regulation, control, stopping, and emergency instructions.
      4) Description of operation sequence by control manufacturer.
      5) Shutdown instructions for both short and extended duration.
6) Summer and winter operating instructions, as applicable.
7) Safety precautions.
8) Special operating instructions.

d. Maintenance and Overhaul Procedures:
   1) Routine maintenance.
   2) Guide to troubleshooting.
   3) Disassembly, removal, repair, reinstallation, and re-assembly.

6. Guarantee, Bond, and Service Agreement: In accordance with Section 01 77 00, Closeout Procedures.

B. Maintenance Summary:

1. Compile individual maintenance summary for each applicable equipment item, respective unit or system, and for components or sub-units.

2. Format:
   a. Use Maintenance Summary Form bound with this section or electronic facsimile of such.
   b. Each maintenance summary may take as many pages as required.
   c. Use only 8-1/2-inch by 11-inch size paper.
   d. Complete using typewriter or electronic printing.

3. Include detailed lubrication instructions and diagrams showing points to be greased or oiled; recommend type, grade, and temperature range of lubricants and frequency of lubrication.

4. Recommended Spare Parts:
   a. Data to be consistent with manufacturer’s bill of materials/parts list furnished in O&M manuals.
   b. “Unit” is the unit of measure for ordering the part.
   c. “Quantity” is the number of units recommended.
   d. “Unit Cost” is the current purchase price.

1.07 DATA FOR MATERIALS AND FINISHES

A. Content for Architectural Products, Applied Materials, and Finishes:

1. Manufacturer’s data, giving full information on products:
   a. Catalog number, size, and composition.
   b. Color and texture designations.
   c. Information required for reordering special-manufactured products.

2. Instructions for Care and Maintenance:
   a. Manufacturer’s recommendation for types of cleaning agents and methods.
b. Cautions against cleaning agents and methods that are detrimental to product.
c. Recommended schedule for cleaning and maintenance.

B. Content for Moisture Protection and Weather Exposed Products:

1. Manufacturer’s data, giving full information on products:
   a. Applicable standards.
   b. Chemical composition.
   c. Details of installation.

2. Instructions for inspection, maintenance, and repair

1.08 SUPPLEMENTS

A. The supplement listed below, following “End of Section,” is part of this Specification.

1. Maintenance Summary Form.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION
MAINTENANCE SUMMARY FORM

PROJECT: ___________________________ CONTRACT NO.: __________________

1. EQUIPMENT ITEM ___________________________

2. MANUFACTURER ___________________________

3. EQUIPMENT/TAG NUMBER(S) ___________________________

4. WEIGHT OF INDIVIDUAL COMPONENTS (OVER 100 POUNDS) ________________

5. NAMEPLATE DATA (hp, voltage, speed, etc.) ___________________________

6. MANUFACTURER’S LOCAL REPRESENTATIVE ___________________________
   a. Name ___________________________ Telephone No. __________
   b. Address ___________________________

7. MAINTENANCE REQUIREMENTS

<table>
<thead>
<tr>
<th>Maintenance Operation Comments</th>
<th>Frequency</th>
<th>Lubricant (If Applicable)</th>
</tr>
</thead>
<tbody>
<tr>
<td>List briefly each maintenance operation required and refer to specific information in manufacturer’s standard maintenance manual, if applicable. (Reference to manufacturer’s catalog or sales literature is not acceptable.)</td>
<td>List required frequency of each maintenance operation.</td>
<td>Refer by symbol to lubricant required.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
8. LUBRICANT LIST

<table>
<thead>
<tr>
<th>Reference Symbol</th>
<th>Shell</th>
<th>Exxon Mobile</th>
<th>Chevron Texaco</th>
<th>BP Amoco</th>
<th>Or Equal</th>
</tr>
</thead>
<tbody>
<tr>
<td>List symbols used in No. 7 above.</td>
<td>List equivalent lubricants, as distributed by each manufacturer for the specific use recommended.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

9. RECOMMENDED SPARE PARTS FOR OWNER’S INVENTORY.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Description</th>
<th>Unit</th>
<th>Quantity</th>
<th>Unit Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

Note: Identify parts provided by this Contract with two asterisks.
PART 1 GENERAL

1.01 SUMMARY

A. This section covers requirements for anchorage and bracing of equipment, distribution systems, and other nonstructural components required in accordance with the ICC 2012 International Building Code (IBC), for seismic, wind, gravity, soil, and operational loads.

1.02 REFERENCES

A. The following is a list of standards which may be referenced in this section:


1.03 DEFINITIONS

A. Authority Having Jurisdiction (AHJ): Permitting building agency; may be a federal, state, local, or other regional department, or individual including building official, fire chief, fire marshal, chief of a fire prevention bureau, labor department, or health department, electrical inspector; or others having statutory authority. AHJ may be Owner when authorized to be self-permitting by governmental permitting agency or when no governmental agency has authority.

B. Designated Seismic System: Architectural, electrical, and mechanical system, or their components for which component importance factor, Ip, is greater than 1.0.

1.04 DESIGN AND PERFORMANCE REQUIREMENTS

A. General:

1. Anchorage and bracing systems shall be designed by a qualified professional engineer registered in the Commonwealth of Virginia.
2. Design anchorage and bracing of architectural, mechanical, and electrical components and systems in accordance with this section,
unless a design is specifically provided within Contract Documents or where exempted hereinafter.

3. Design attachments, braces, and anchors for equipment, components, and distribution systems to structure for gravity, seismic, wind, and operational loading.

4. Piping and ductwork, whether exempt or not exempt for this section, shall be anchored and braced so that lateral or vertical displacement does not result in damage or failure to essential architectural, mechanical, or electrical equipment.

5. Architectural Components: Includes, but are not limited to, nonstructural walls and elements, partitions, cladding and veneer, access flooring, signs, cabinets, suspended ceilings, and glass in glazed curtain walls and partitions.

6. Provide supplementary framing where required to transfer anchorage and bracing loads to structure.

7. Adjust equipment pad sizes or provide additional anchorage confinement reinforcing to provide required anchorage capacities.

8. Design anchorage and bracing for:
   a. Equipment and components that weigh more than 800 pounds and have center of mass located 5 feet or less above adjacent finished floor.
   b. Equipment weighing more than 100 pounds that has center of mass located more than 5 feet above adjacent finished floor.
   c. Distribution systems that weigh more than 20 pounds per foot that have center of mass located more than 5 feet above adjacent finished floor.

9. For components exempted from design requirements of this section, provide bolted, welded, or otherwise positively fastened attachments to supporting structure.

B. Design Loads:

1. Gravity: Design anchorage and bracing for self-weight and superimposed loads on components and equipment.

2. Wind: Design anchorage and bracing for wind criteria provided on General Structural Notes on Drawings for exposed architectural components and exterior and wind-exposed mechanical and electrical equipment. Alternately, manufacturer certification may be provided for components such as roofing and flashing to verify attachments meet Project-specific design criteria.
3. Operational:
   a. For loading supplied by equipment manufacturer for IBC required load cases.
   b. Loads may include equipment vibration, torque, thermal effects, effects of internal contents (weight and sloshing), water hammer, and other load-inducing conditions.
   c. Locate braces to minimize vibration to or movement of structure.
   d. For vibrating loads, use anchors meeting requirements of Section 05 50 00, Metal Fabrications, for anchors with designated capacities for vibratory loading in accordance with manufacturer’s ICC-ES report.

4. Seismic:
   a. In accordance with 2012 IBC, Section 1613, and Chapter 13 of ASCE 7.
   b. Design anchorage and bracing for design criteria listed on General Structural Notes on Drawings.
   c. Design forces for anchors in concrete or masonry shall be in accordance with ASCE 7, Section 13.4.2, or IBC Section 1905.1.9 as applicable for Project Seismic Design Category.

1.05 SUBMITTALS

A. Action Submittals:

   1. Shop Drawings:
      a. List of architectural, mechanical, and electrical equipment requiring Contractor-designed anchorage and bracing, unless specifically exempted.
      b. Seismic attachment assemblies’ drawings; include connection hardware, braces, and anchors or anchor bolts for nonexempt components, equipment, and systems.
      c. Submittal will be rejected if proposed anchorage method would create an overstressed condition of supporting member. Revise anchorages and strengthening of structural support so there is no overstressed condition.

B. Informational Submittals:

   1. Anchorage and Bracing Calculations: For attachments, braces, and anchorages, include IBC and Project-specific criteria as noted on General Structural Notes on Drawings, in addition to manufacturer’s specific criteria used for design; sealed by a civil engineer registered in the Commonwealth of Virginia.
   2. Manufacturer’s hardware installation requirements.
1.06 SOURCE QUALITY CONTROL

A. Contractor and supplier responsibilities to accommodate Owner-furnished shop fabrication related special inspections and testing are provided in Project’s Statement of Special Inspections on Drawings and Section 01 45 33, Special Inspection, Observation, and Testing.

B. All other specified, regulatory required, or repair verification inspection and testing that are not listed in Statement of Special Inspections, are to be provided by Contractor.

C. Source quality control for shall be in accordance with Section 05 50 00, Metal Fabrications.

PART 2 PRODUCTS

2.01 GENERAL

A. Attachments and supports transferring seismic loads to structure shall be designed and constructed of materials and products suitable for application and be in accordance with design criteria shown on Drawings and nationally recognized standards.

B. Provide anchor bolts and concrete and masonry anchors for anchorage of equipment to concrete or masonry in accordance with Section 05 50 00, Metal Fabrications. Size of anchor bolts and anchors, required minimum embedment, and spacing shall be based on calculations submitted by Contractor.

C. Do not use powder-actuated fasteners or sleeve anchors for seismic attachments and anchorage where resistance to tension loads is required. Do not use expansion anchors, other than undercut anchors, for nonvibration isolated mechanical equipment rated over 10 horsepower.

PART 3 EXECUTION

3.01 GENERAL

A. Make attachments, bracing, and anchorage in such a manner that component lateral force is transferred to lateral force resisting system of structure through a complete load path.

B. Overall seismic anchorage system shall provide restraint in all directions, including vertical, for each component or system so anchored.
C. Components mounted on vibration isolation systems shall have snubbers in each horizontal direction and vertical restraints where required to resist overturning.

D. Anchor piping in such a manner as to ensure piping system has adequate flexibility and expansion capabilities at flexible connections and expansion joints.

1. Piping and ductwork suspended more than 12 inches below supporting structure shall be braced for seismic effects to avoid significant bending of hangers and their attachments, unless high- or limited-deformability piping is used in accordance with ASCE 7, Section 13.6.8, or HVAC ducts have a cross-sectional area of less than 6 square feet or weigh 17 pounds per-foot or less.

E. Anchor tall and narrow equipment such as motor control centers and telemetry equipment at base.

F. Do not attach architectural, mechanical, or electrical components to more than one element of a building structure at a single restraint location where such elements may respond differently during a seismic event. Do not make such attachments across building expansion and contraction joints.

3.02 INSTALLATION

A. Do not install components or their anchorages or restraints prior to review and acceptance by Engineer and AHJ.

B. Notify Engineer upon completion of installation of seismic restraints in accordance with Section 01 45 33, Special Inspection, Observation, and Testing.

3.03 FIELD QUALITY CONTROL

A. In accordance with Section 05 50 00, Metal Fabrications.

B. Contractor responsibilities to accommodate Owner-furnished special inspections and testing are provided in Project’s Statement of Special Inspections on Drawings and Section 01 45 33, Special Inspection, Observation, and Testing.
C. Any other specified, regulatory required, or repair verification inspection and testing that are not listed in Statement of Special Inspections, are to be provided by Contractor.

END OF SECTION
PART 1 GENERAL

1.01 DEFINITIONS

A. Facility: Entire Project, or an agreed-upon portion, including all unit processes.

B. Functional Test: Test or tests in presence of Engineer and Owner to demonstrate that installed equipment meets manufacturer’s installation, calibration, and adjustment requirements and other requirements as specified.

C. Performance Test: Test or tests performed after any required functional test in presence of Engineer and Owner to demonstrate and confirm individual equipment meets performance requirements specified in individual sections.

D. Facility Performance Demonstration:
   1. A demonstration, conducted by Contractor, with assistance of Owner, to demonstrate and document the performance of the entire operating facility, both manually and automatically (if required), based on criteria developed in conjunction with Owner and as accepted by Engineer.
   2. Such demonstration is for the purposes of (i) verifying to Owner entire facility performs as a whole, and (ii) documenting performance characteristics of completed facility for Owner’s records. Neither the demonstration nor the evaluation is intended in any way to make performance of a unit process or entire facility the responsibility of Contractor, unless such performance is otherwise specified.

1.02 SUBMITTALS

A. Informational Submittals:
   1. Facility startup and performance demonstration plan.
   2. Functional and performance test results.
   3. Completed Unit Process Startup Form for each unit process.
1.03 FACILITY STARTUP AND PERFORMANCE DEMONSTRATION PLAN

A. Develop a written plan, in conjunction with Owner’s operations personnel; to include the following:

1. Step-by-step instructions for startup of each unit process and the complete facility.
2. Unit Process Startup Form (sample attached), to minimally include the following:
   a. Description of the unit process, including equipment numbers/nomenclature of each item of equipment and all included devices.
   b. Detailed procedure for startup of the unit process, including valves to be opened/closed, order of equipment startup, etc.
   c. Startup requirements for each unit process, including water, power, chemicals, etc.
   d. Space for evaluation comments.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 GENERAL

A. Facility Startup Meetings: Schedule, in accordance with requirements of Section 01 31 19, Project Meetings, to discuss test schedule, test methods, materials, chemicals and liquids required, facilities operations interface, and Owner involvement.

B. Contractor’s Testing and Startup Representative:

1. Designate and furnish one or more personnel to coordinate and expedite testing and facility startup.
2. Representative(s) shall be present during startup meetings and shall be available at all times during testing and startup.

C. Provide temporary valves, gauges, piping, test equipment and other materials and equipment required for testing and startup.

D. Provide Subcontractor and equipment manufacturers’ staff adequate to prevent delays. Schedule ongoing work so as not to interfere with or delay testing and startup.

E. Contractor will provide water, power, and other items as required for startup, unless otherwise indicated.
3.02 EQUIPMENT TESTING

A. Preparation:

1. Complete installation before testing.
2. Furnish qualified manufacturers’ representatives, when required by individual Specification sections.
3. Obtain and submit from equipment manufacturer’s representative Manufacturer’s Certificate of Proper Installation Form, in accordance with Section 01 43 33, Manufacturers’ Field Services, when required by individual Specification sections.
4. Equipment Test Report Form: Provide written test report for each item of equipment to be tested, to include the minimum information:
   a. Owner/Project name.
   b. Equipment or item tested.
   c. Date and time of test.
   d. Type of test performed (functional or performance).
   e. Test method.
   f. Test conditions.
   g. Test results.
   h. Signature spaces for Contractor and Engineer as witness.
5. Cleaning and Checking: Prior to beginning functional testing:
   a. Calibrate testing equipment in accordance with manufacturer’s instructions.
   b. Inspect and clean equipment, devices, connected piping, and structures to ensure they are free of foreign material.
   c. Lubricate equipment in accordance with manufacturer’s instructions.
   d. Turn rotating equipment by hand when possible to confirm that equipment is not bound.
   e. Open and close valves by hand and operate other devices to check for binding, interference, or improper functioning.
   f. Check power supply to electric-powered equipment for correct voltage.
   g. Adjust clearances and torque.
   h. Test piping for leaks.
6. Ready-to-test determination will be by Engineer based at least on the following:
   a. Acceptable operation and maintenance data.
   b. Notification by Contractor of equipment readiness for testing.
   c. Receipt of Manufacturer’s Certificate of Proper Installation, if so specified.
   d. Adequate completion of work adjacent to, or interfacing with, equipment to be tested.
e. Availability and acceptability of manufacturer’s representative, when specified, to assist in testing of respective equipment.

f. Satisfactory fulfillment of other specified manufacturer’s responsibilities.

g. Equipment and electrical tagging complete.

h. Delivery of all spare parts and special tools.

B. Functional Testing:

1. Conduct as specified in individual Specification sections.
2. Notify Owner and Engineer in writing at least 10 days prior to scheduled date of testing.
3. Prepare equipment test report summarizing test method and results.
4. When, in Engineer’s opinion, equipment meets functional requirements specified, such equipment will be accepted for purposes of advancing to performance testing phase, if so required by individual Specification sections. Such acceptance will be evidenced by Engineer/Owner’s signature as witness on equipment test report.

C. Performance Testing:

1. Conduct as specified in individual Specification sections.
2. Notify Engineer and Owner in writing at least 10 days prior to scheduled date of test.
3. Performance testing shall not commence until equipment has been accepted by Engineer as having satisfied functional test requirements specified.
4. Type of fluid, gas, or solid for testing shall be as specified.
5. Unless otherwise indicated, furnish labor, materials, and supplies for conducting the test and taking samples and performance measurements.
6. Prepare equipment test report summarizing test method and results.
7. When, in Engineer’s opinion, equipment meets performance requirements specified, such equipment will be accepted as to conforming to Contract requirements. Such acceptance will be evidenced by Engineer’s signature on equipment test report.

3.03 FACILITY PERFORMANCE DEMONSTRATION

A. After facility is operating, complete performance testing of equipment and systems not previously tested.

B. Document, as defined in facility startup and performance demonstration plan, the performance of the facility including its computer system, until all unit processes are operable and under control of computer system.
C. Certify, on the Facility Performance Demonstration/Certification Form, that facility is capable of performing its intended function(s), including fully automatic and computerized operation.

3.04 SUPPLEMENTS

A. Supplements listed below, following “End of Section,” are a part of this Specification.

1. Unit Process Startup Form.
2. Facility Performance Demonstration/Certification Form.

END OF SECTION
UNIT PROCESS STARTUP FORM

OWNER: ___________________________  PROJECT: ___________________________

Unit Process Description: (Include description and equipment number of all equipment and devices):

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

Startup Procedure (Describe procedure for sequential startup and evaluation, including valves to be opened/closed, order of equipment startup, etc.):

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

Startup Requirements (Water, power, chemicals, etc.):

________________________________________________________________________
________________________________________________________________________

Evaluation Comments:

________________________________________________________________________
________________________________________________________________________

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FACILITY PERFORMANCE DEMONSTRATION/CERTIFICATION FORM

OWNER: ____________________________  PROJECT: ____________________________

Unit Processes Description (List unit processes involved in facility startup):

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

Unit Processes Startup Sequence (Describe sequence for startup, including computerized operations, if any):

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

Contractor Certification that Facility is capable of performing its intended function(s), including fully automatic operation:

Contractor: ____________________________  Date: ____________________________, 20____

Engineer: ____________________________  Date: ____________________________, 20____

(Authorized Signature)
SECTION 02 41 00
DEMOLITION

PART 1 GENERAL

1.01 REFERENCES

A. The following is a list of standards which may be referenced in this section:

3. Environmental Protection Agency (EPA), U.S. Code of Federal Regulations (CFR), Title 40:
   b. Part 82—Protection of Stratospheric Ozone.

1.02 DEFINITIONS

A. ACM: Asbestos-containing material.

B. Demolition: Dismantling, razing, destroying, or wrecking of any fixed building or structure or any part thereof.

C. Modify: Provide all necessary material and labor to modify an existing item to the condition indicated or specified.

1. Equipment.
2. Railroad Trackwork: Remove and disassemble existing trackwork to the extent required and reinstall at new track location.

D. Relocate: Remove, protect, clean and reinstall equipment, including electrical, instrumentation, and all ancillary components required to make the equipment fully functional, to the new location identified on the Drawings.
E. Salvage/Salvageable: Remove and deliver, to the specified location(s), the equipment, building materials, or other items so identified to be saved from destruction, damage, or waste; such property to remain that of Owner. Unless otherwise specified, title to items identified for demolition shall revert to Contractor.

F. Universal Waste Lamp: In accordance with 40 CFR 273, the bulb or tube portion of an electric lighting device, examples of which include, but are not limited to, fluorescent, high-intensity discharge, neon, mercury vapor, high-pressure sodium, and metal halide lamps.

G. Universal Waste Thermostat: A temperature control device that contains metallic mercury in an ampule attached to a bimetal sensing element, and mercury-containing ampules that have been removed from these temperature control devices in compliance with the requirements of 40 CFR 273.

1.03 SUBMITTALS

A. Informational Submittals:

1. Submit proposed demolition plan, in accordance with requirements specified herein, for approval before such Work is started.
2. Submit copies of any notifications, authorizations and permits required to perform the Work.

1.04 REGULATORY AND SAFETY REQUIREMENTS

A. When applicable, demolition Work shall be accomplished in strict accordance with 29 CFR 1926-Subpart T.

B. Comply with federal, state, and local hauling and disposal regulations. In addition to the requirements of the General Conditions, Contractor’s safety requirements shall conform to ANSI A10.6.

C. Furnish timely notification of this project to applicable federal, state, regional, and local authorities in accordance with 40 CFR 61-Subpart M.

1.05 DEMOLITION PLAN

A. Demolition plan shall provide for safe conduct of the Work and shall include:

1. Detailed description of methods and equipment to be used for each operation.
2. The Contractor’s planned sequence of operations, including coordination with other work in progress.
3. Procedures for removal and disposition of materials specified to be salvaged.

B. Include statements affirming Contractor inspection of the framing members, and their suitability to perform as a safe working platform or, if inspection reveals a safety hazard to workers, state provisions for securing the safety of the workers throughout the performance of the Work.

1.06 SEQUENCING AND SCHEDULING

A. The Work of this Specification shall not commence until Contractor’s demolition plan has been approved by Engineer.

B. Include the Work of this Specification in the progress schedule, as specified in Section 01 32 00, Construction Progress Documentation.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 EXISTING FACILITIES TO BE DEMOLISHED

A. Structures: Sidewalks, curbs, gutters and street light bases shall be removed as indicated.

B. Paving and Slabs:
   1. Sawcut concrete and asphaltic concrete paving and slabs as indicated.
   2. Provide neat sawcuts at limits of pavement removal as indicated.

C. Concrete: Saw concrete along straight lines to a depth of not less than 2 inches. Make each cut in walls perpendicular to the face and in alignment with the cut in the opposite face. Break out the remainder of the concrete provided that the broken area is concealed in the finished Work, and the remaining concrete is sound. At locations where the broken face cannot be concealed, grind smooth or saw cut entirely through the concrete. Where new concrete adjoins existing, the new Work shall abut or tie into the existing construction as specified.

D. Patching:
   1. Where removals leave holes and damaged surfaces exposed in the finished Work, patch and repair to match adjacent finished surfaces as to texture and finish.
2. Where new Work is to be applied to existing surfaces, perform removals and patching in a manner to produce surfaces suitable for receiving new Work.

E. Electrical:

1. Cut off concealed or embedded conduit, boxes, or other materials a minimum of 3/4 inch below final finished surface.
2. When removing designated equipment, conduit and wiring may require rework to maintain service to other equipment.
3. Rework existing circuits, or provide temporary circuits as necessary during demolition to maintain service to existing lighting and equipment not scheduled to be removed. Existing equipment and circuiting shown are based upon limited field surveys. Verify existing conditions, make all necessary adjustments, and record the Work on the Record Drawings. This shall include, but is not limited to, swapping and other adjustments to branch circuits and relocation of branch circuit breakers within panelboards as required to accomplish the finished work.
4. Reuse of existing luminaires, devices, conduits, boxes, or equipment will be permitted only where specifically indicated.
5. Raceways and cabling not scheduled for reuse.
6. Inaccessibly Concealed: Cut off and abandon in place.
7. Exposed or Concealed Above Accessible Ceilings: Remove.
9. Relocating Equipment: Extend existing wiring or run new wiring from the source.
10. Where the existing raceway is concealed, the outlet box shall be cleaned, and a blank cover plate installed.
11. Where the concealed raceway is uncovered remove raceway (or extended to new location if appropriate).

F. Universal Waste Lamps and Thermostats: Manage, contain, package, and label in strict accordance with 40 CFR 273.

3.02 PROTECTION

A. Traffic Control Signs: Where pedestrian and driver safety is endangered in the area of removal Work, use traffic barricades with flashing lights.

B. Existing Work:

1. Survey the site and examine the Drawings and Specifications to determine the extent of the Work before beginning any demolition.
2. Take necessary precautions to avoid damage to existing items scheduled to remain in place, to be reused, or to remain the property of Owner; any Contractor-damaged items shall be repaired or replaced as directed by Engineer.

3. Do not overload pavements to remain.

C. Facilities:

1. Protect electrical and mechanical services and utilities. Where removal of existing utilities and pavement is specified or indicated, provide approved barricades, temporary covering of exposed areas, and temporary services or connections for electrical and mechanical utilities.

2. Protect all facility elements not scheduled for demolition.

3. Provide interior shoring, bracing, or support to prevent movement, settlement, or collapse of structure or element to be demolished and adjacent facilities.

D. Protection of Personnel:

1. During demolition, continuously evaluate the condition of the structure being demolished and take immediate action to protect all personnel working in and around the demolition site.

2. Provide temporary barricades and other forms of protection to protect Owner’s personnel and the general public from injury due to demolition Work.

3. Provide protective measures as required to provide free and safe passage of Owner’s personnel and the general public to occupied portions of the structure.

3.03 TITLE TO MATERIALS

A. All salvaged equipment and materials will remain the property of Owner.

3.04 DISPOSITION OF MATERIAL

A. Do not remove equipment and materials without approval of Contractor’s demolition plan by Engineer.

B. Salvage equipment to the maximum extent possible.
3.05 CLEANUP

A. Debris and rubbish shall be removed from basement and similar excavations. Debris and rubbish shall be removed and transported in a manner that prevents spillage on streets or adjacent areas. Local regulations regarding hauling and disposal shall apply.

END OF SECTION
SECTION 03 10 00
CONCRETE FORMING AND ACCESSORIES

PART 1 GENERAL

1.01 REFERENCES

A. The following is a list of standards which may be referenced in this section:

   1. American Concrete Institute (ACI):
      a. 117, Specification for Tolerances for Concrete Construction and Materials.
      b. 301, Specifications for Structural Concrete.
      c. 318, Building Code Requirements for Structural Concrete and Commentary.

1.02 DEFINITIONS

   A. Architectural Concrete: See definition in Section 03 30 00, Cast-in-Place Concrete.
   B. Defective Areas: See definition in Section 03 30 00, Cast-in-Place Concrete.
   C. Exposed Concrete: See definition in Section 03 30 00, Cast-in-Place Concrete.

1.03 DESIGN REQUIREMENTS

   A. Design formwork in accordance with ACI 301 and ACI 318 to provide concrete finishes specified in Section 03 30 00, Cast-in-Place Concrete.
   B. When high range water reducer (superplasticizer) is used in concrete mix, form design shall account for increased hydrostatic pressures.
   C. Joints in forms shall be watertight.
   D. Limit panel deflection to 1/360th of each component span to achieve specified tolerances.
   E. Form liner designer shall verify compatibility of proposed concrete mix with proposed form liner.
1.04 SUBMITTALS

A. Action Submittals:

1. Product Data:
   a. Form release agent.
   b. Form ties.
   c. Products to be used for sealing tie holes.

B. Informational Submittals: Statement of qualifications for formwork designer.

1.05 QUALITY ASSURANCE

A. Qualifications:

1. Formwork Designer: Formwork, falsework, and shoring design shall be by an engineer licensed in the state of Project.

PART 2 PRODUCTS

2.01 FORM MATERIALS

A. Forms:

1. Materials: Plywood, hard plastic finished plywood, overlaid waterproof particle board, or steel in “new and undamaged” condition, of sufficient strength and surface smoothness to produce specified finish.

2. Where steel forms are used, treat steel surfaces to prevent rusting using products approved for use on steel forms.

2.02 ACCESSORIES

A. Form Release Agent:

1. Material:
   a. Shall not bond with, stain, or adversely affect concrete surfaces.
   b. Shall not impair subsequent treatments of concrete surfaces when applied to forms.
   c. Ready-to-use water based material formulated to reduce or eliminate surface imperfections.
   d. Contain no mineral oil or organic solvents.

2. Manufacturers and Products: Not for surfaces exposed to potable water.
   a. BASF, Shakopee, MN; MBT Rheofinish 211.
   b. Cresset Chemical Company; Crete-Lease 20-VOC-Xtra.
B. Beveled Edge Corner Strips: Nonabsorbent material, compatible with form surface, fully sealed on all sides prohibiting loss of paste or water between the two surfaces.

C. Form Snap-Ties:
   1. Material: Steel.
   2. Spreader Inserts:
      a. Conical or spherical type.
      b. Design to maintain positive contact with forming material.
      c. Furnish units that will leave no metal closer than 2 inches to concrete surface when forms, inserts, and tie ends are removed.
   3. Wire ties not permitted.
   4. Flat bar ties for panel forms; furnish plastic or rubber inserts with minimum 2-inch depth and sufficient dimensions to permit patching of tie hole.

D. Through-Bolts: Not allowed.

PART 3 EXECUTION

3.01 FORM SURFACE PREPARATION

A. Prior to coating surface, thoroughly clean form surfaces that will be in contact with concrete or that have been in contact with previously cast concrete, dirt, and other surface contaminants.

B. Exposed Wood Forms in Contact with Concrete: Apply form release agent as recommended by manufacturer.

C. Steel Forms: Apply form release agent as soon as they are cleaned to prevent discoloration of concrete from rust.

3.02 ERECTION

A. General: In accordance with ACI 301, unless otherwise specified.

B. Beveled Edges (Chamfer):
   1. Form 3/4-inch bevels at concrete edges, unless otherwise shown.
   2. Where beveled edges on existing adjacent structures are other than 3/4 inch, obtain Engineer’s approval of size prior to placement of beveled edge.
C. Forms:

1. Do not reuse forms with damaged surfaces.
2. Locate form ties and joints in uninterrupted uniform pattern.
3. Inspect form surfaces prior to installation to ensure conformance with specified tolerances.

D. Form Tolerances: Provide forms in accordance with ACI 117 and ACI 318, and the following tolerances for finishes specified.

1. Beam Tolerances:
   a. Exposed Straight Horizontal and Vertical Surfaces: Flat planes within tolerances specified.
   b. Lateral Alignment:
      1) Centerlines shall be within plus or minus 1/2 inch from dimensions shown.
      2) At intersections, centerlines shall intersect within plus or minus 1/2 inch of dimensions shown.
   c. Beam:
      1) Physical Dimensions: Maximum 1/4 inch minus or 1/2 inch plus from dimension shown.
      2) Elevations: Within plus or minus 1/2 inch, except where tops of beams become part of finished slab. In this case refer to slab tolerances.

3.03 FORM REMOVAL

A. Nonsupporting forms, sides of beams, and similar parts of Work, may be removed after cumulatively curing at not less than 50 degrees F for 72 hours from time of concrete placement if:

1. Concrete is sufficiently hard so as not to sustain damage by form removal operations.
2. Curing and protection operations are maintained.

B. Beams: In accordance with ACI 318, Chapter 6, and at such time as concrete has reached compressive strength equal to 80 percent of specified 28-day compressive strength as determined by test cylinders.

C. Form Ties: Remove conical inserts or through bolts and plug holes as specified in Section 03 30 00, Cast-in-Place Concrete.
3.04 FIELD QUALITY CONTROL

A. Owner-Furnished Quality Assurance, in accordance with IBC Chapter 17 requirements, is provided in Statement of Special Inspections Plan on Drawings. Contractor responsibilities and related information are included in Section 01 45 33, Special Inspection, Observation, and Testing.

B. Contractor-Furnished Quality Control: Inspection and testing as required in Section 01 45 16.13, Contractor Quality Control.

END OF SECTION
PART 1 GENERAL

1.01 REFERENCES

A. The following is a list of standards which may be referenced in this section:

1. ASTM International (ASTM):
   b. A615, Specification for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement.
   c. A653, Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
   d. A767, Specification for Zinc-Coated (Galvanized) Steel Bars for Concrete Reinforcement.
   g. D227, Specification for Coal-Tar Saturated Organic Felt Used in Roofing and Waterproofing.
   h. D994, Specification for Preformed Expansion Joint Filler for Concrete (Bituminous Type).
   i. D1056, Specification for Flexible Cellular Materials—Sponge or Expanded Rubber.
   k. D1751, Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Nonextruding and Resilient Bituminous Types).
   l. D1752, Specification for Preformed Sponge Rubber and Cork Expansion Joint Fillers for Concrete Paving and Structural Construction.

2. Corps of Engineers (COE): CRD-C-572, Corps of Engineers Specifications for Polyvinylchloride Waterstop.
1.02 SUBMITTALS

A. Action Submittals:

1. Shop Drawings:
   a. Waterstop: Details of splices, method of securing and supporting waterstop in forms to maintain proper orientation and location during concrete placement.
   b. Construction and Control Joints: Layout and location for each type.

2. Samples: PVC waterstop splice, joint, and fabricated cross of each size, shape, and fitting of waterstop.

B. Informational Submittals:

1. Joint filler.
2. Manufacturer’s written instructions for product shipment, storage, handling, installation/application, and repair for:
   a. Waterstop.
   b. Joint filler and primer.
   c. Preformed control joint.

1.03 DELIVERY, STORAGE, AND HANDLING

A. Acceptance at Site: Verify delivered materials are in accordance with Specifications and manufacturer’s product data sheets prior to unloading and storing onsite.

B. Storage: Store materials under tarps to protect from oil, dirt, and sunlight.

PART 2 PRODUCTS

2.01 PLASTIC WATERSTOP

A. Extruded from elastomeric plastic compound of which basic resin shall be prime virgin polyvinyl chloride (PVC). Compound shall not contain scrapped material, reclaimed material, or pigment.

B. Specific Gravity: Approximately 1.37.

C. Shore Durometer Type A Hardness: Approximately 80.


E. Type: Center bulb with parallel ribs or protrusions on each side of strip center.
F. Corrugated or tapered type waterstops are not acceptable.

G. Thickness: Constant from bulb edge to outside stop edge.

H. Minimum Weight per Foot of Waterstop:
   1. 1.60 pounds for 3/8 inch by 6 inches.
   2. 2.30 pounds for 3/8 inch by 9 inches.

I. Factory Fabrications: Use only factory fabrications for intersections, transitions, and changes of direction.

J. Manufacturers and Products:
   1. Vinylex Corp., Knoxville, TN; Catalog No. 03250/VIN: No. RB6-38H (6 inches by 3/8 inch) and No. RB9-38H (9 inches by 3/8 inch).
   2. Greenstreak Plastic Products, St. Louis, MO; Catalog No. 03150/GRD: Style 732 (6 inches by 3/8 inch) and Style 735 (9 inches by 3/8 inch).
   3. Four Seasons Industries Durajoint, Garrettsville, OH; Catalog No. CSP-162: Type 9 (6 inches by 3/8 inch), and Type 10 (9 inches by 3/8 inch).

2.02 HYDROPHILIC WATERSTOP

A. For use at construction joints only, where new concrete is placed against existing concrete and as shown on Drawings.

B. Material shall be a nonbentonite hydrophilic rubber compound.

C. Manufacturers and Products:
   1. Greenstreak Plastic Products, St. Louis, MO; Hydrotite CJ-1020-2K with Leakmaster LV-1 adhesive and sealant.

2.03 BOND BREAKER

A. Tape for Joints: Adhesive-backed glazed butyl or polyethylene tape, same width as joint that will adhere to premolded joint material or concrete surface.

B. Use either bond breaker tape or bond prevention material as specified in Section 03 30 00, Cast-in-Place Concrete, except where tape is specifically called for.
2.04 PREMOLDED JOINT FILLER

A. Bituminous Type: ASTM D994 or ASTM D1751.

2.05 PREFORMED CONTROL JOINT

A. One-Piece, Flexible, Polyvinyl Chloride Joint Former:

B. One-Piece Steel Strip with Preformed Groove:

C. Furnish in full-length, unspliced pieces.

2.06 POURABLE JOINT FILLERS

A. Filler for Nonpotable Water Containment Structures:
   1. Pourable, two-component, cold-applied compound meeting ASTM C920, Type M, Grade P, Class 25, Use T.
   2. Color: Black, gray, or white.

2.07 STEEL EXPANSION JOINT DOWELS

A. Dowels: ASTM A36/A36M round smooth steel bars.

B. Bar Coating: As specified in Section 09 90 00, Painting and Coating, with factory-applied lubricating coating.

2.08 ACCESSORIES

A. Nonshrink Grout: As specified in Section 03 62 00, Nonshrink Grouting.

B. Roofing Felt: ASTM D226, Type II, 30-pound asphalt-saturated or equal weight of ASTM D227 coal-tar saturated felt.

C. Reinforcing Steel: As specified in Section 03 21 00, Reinforcing Steel.

D. Nails: Galvanized, as required for securing premolded joint filler.
E. Masking Tape: As required to temporarily adhere to concrete at each side of joint to receive filler.

F. Galvanized Rebar at Control Joints: ASTM A767/A767M and ASTM A615/A615M Grade 60 prior to galvanizing.

G. Ties for PVC Waterstop: “Hog Rings” or grommets for each edge at 12-inch maximum spacing.

PART 3 EXECUTION

3.01 GENERAL

A. Commence concrete placement after joint preparation is complete.

B. Time Between Concrete Pours: As specified in Section 03 30 00, Cast-in-Place Concrete.

3.02 SURFACE PREPARATION

A. Construction Joints: Prior to placement of abutting concrete, clean contact surface:

1. Remove laitance and spillage from reinforcing steel and dowels.
2. Roughen surface to minimum of 1/4-inch amplitude:
   a. Sandblast after concrete has fully cured.
   b. Water blast after concrete has partially cured.
   c. Green cut fresh concrete with high pressure water and hand tools.
3. Perform cleaning so as not to damage waterstop, if one is present.

B. Expansion Joint:

1. Use wire brush or other motorized device to mechanically roughen and thoroughly clean concrete surfaces on each side of joint from plastic waterstop to top of joint.
2. Use dry high pressure air to remove dust and foreign material, and dry joint.
3. Prime surfaces as required before placing joint filler.
4. Avoid damage to waterstop.

C. Contraction Joint and Control Joint:

1. Coat concrete surfaces above and below plastic waterstop with bond breaker.
2. Do not damage or coat waterstop.
D. Construction Joint with Hydrophilic Waterstop:
   1. Follow hydrophilic waterstop manufacturer’s written instructions.
   2. Clean debris, dirt, dust, and foreign material from concrete surface. Concrete surface must be smooth, clean, and dry. Grind concrete as required.

3.03 INSTALLATION OF WATERSTOPS

A. General:
   1. Continuous waterstop (as specified) shall be installed in all construction joints in walls and slabs of water holding basins and channels and in walls of belowgrade structures, unless specifically noted otherwise.
   2. Join waterstop at intersections to provide continuous seal.
   3. Center waterstop on joint.
   5. Repair or replace damaged waterstop.
   6. Place concrete and vibrate to obtain impervious concrete in vicinity of joints.
   7. Joints in Footings and Slabs:
      a. Ensure that space beneath plastic waterstop is completely filled with concrete.
      b. During concrete placement, make visual inspection of waterstop area.
      c. Limit concrete placement to elevation of waterstop in first pass, vibrate concrete under waterstop, lift waterstop to confirm full consolidation without voids, then place remaining concrete to full height of slab.

B. Plastic Waterstop:
   1. Install in accordance with manufacturer’s written instructions.
   2. Splice in accordance with waterstop manufacturer’s written instructions using Teflon-coated thermostatically controlled heating iron at approximately 380 degrees F.
      a. Allow at least 10 minutes before new splice is pulled or strained in any way.
      b. Finished splices shall provide cross section that is dense and free of porosity with tensile strength of not less than 80 percent of unspliced materials.
c. Use only factory made waterstop fabrications for all intersections, changes of directions and transitions.
d. Field splice permitted only for straight butt welds.
3. Wire looped plastic waterstop may be substituted for plastic waterstop.

C. Hydrophilic Waterstop:
   1. Install in accordance with manufacturer’s written instructions.
   2. Provide minimum of 2-1/2 inches of concrete cover over waterstop. When structure has two layers of reinforcing steel, locate centered between layers of steel or as shown.
   3. Apply adhesive to concrete surface and allow to dry for specified time before applying waterstop strip.
   4. Butt ends of waterstop strip together at splices and corners and join with sealant.
   5. Verify that waterstop is anchored firmly in place before placing concrete. Do not allow vibrator to come into contact with waterstop.

3.04 EXPANSION JOINT INSTALLATION

A. Premolded Joint Filler:
   1. Sufficient in width to completely fill joint space where shown.
   2. If waterstop is in joint, cut premolded joint filler to butt tightly against waterstop and concrete face.
   3. Precut premolded joint filler to required depth at locations where joint filler or sealant is to be applied.
   4. Form cavities for joint filler with either precut, premolded joint filler, or smooth removable accurately shaped material. Entire joint above waterstop, in slabs, shall be formed and removed so that entire space down to waterstop can be filled with the pourable joint filler.
   5. Vibrate concrete thoroughly along joint form to produce dense, smooth surface.

B. Bituminous Type Premolded Joint Filler:
   1. Drive nails approximately 1 foot 6 inches on center through filler, prior to installing, to provide anchorage embedment into concrete during concrete placement.
   2. Secure premolded joint filler in forms before concrete is placed.
   3. Install in walkways, at changes in direction, at intersections, at each side of driveway entrances, and at 45-foot intervals, maximum.
C. Pourable Joint Filler:
   1. General: Install in accordance with the manufacturer’s written instructions, except as specified below:
      a. Apply primer prior to pouring joint filler.
      b. Fill entire joint above the waterstop with joint filler as shown.
      c. Use masking tape on top of slabs at sides of joints; clean spillage. Remove masking tape afterwards.

D. Steel Expansion Joint Dowels:
   1. Install coated and lubricated bars parallel to wall or slab surface and in true horizontal position perpendicular to joint in both plan and section view, so as to permit joint to expand or contract without bending dowels.
   2. Secure dowels tightly in forms with rigid ties.
   3. Install reinforcing steel in concrete as shown.

3.05 CONTRACTION JOINT INSTALLATION
   A. Place bond breaker above and below stop.
   B. Vibrate concrete thoroughly along the joint form to produce a dense, smooth surface.

3.06 CONTROL JOINT INSTALLATION
   A. Locate reinforcing steel as shown.
   B. Install waterstop.
   C. Concrete surfaces shall be dense and smooth.
   D. Install bond breaker to concrete surfaces above and below waterstop.

3.07 PREFORMED CONTROL JOINTS
   A. Locate slightly below top of slab.
   B. Install in accordance with manufacturer’s written instructions in straight, full-length pieces.
   C. Steel Strip Type with Preformed Groove: Brace to withstand pressure of concrete during and after placement.

END OF SECTION
SECTION 03 21 00
REINFORCING STEEL

PART 1  GENERAL

1.01  REFERENCES

A.  The following is a list of standards which may be referenced in this section:

1.  American Concrete Institute (ACI):
   a.  318, Building Code Requirements for Structural Concrete and Commentary.


3.  ASTM International (ASTM):
   a.  A615, Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement.
   b.  A706, Standard Specification for Low-Alloy Steel Deformed and Plain Bars for Concrete Reinforcement.
   c.  A1064, Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete.

4.  Concrete Reinforcing Steel Institute (CRSI):
   a.  Placing Reinforcing Bars.


1.02  SUBMITTALS

A.  Action Submittals:

1.  Shop Drawings prepared in accordance with CRSI Manual of Standard Practice and ACI SP-66:
   a.  Bending lists.
   b.  Placing drawings.

2.  Welded, metallic sleeve splice, and mechanical threaded connection.

B.  Informational Submittals:

1.  Lab test reports for reinforcing steel showing stress-strain curves and ultimate strengths.
2. Mechanical Threaded Connections:
   a. Current ICC Evaluation Services Report or equivalent code agency report listing findings to include acceptance, special inspection requirements, and restrictions.
   b. Verification device threads have been tested and meet requirements for thread quality, in accordance with manufacturer’s published methods.
   c. Manufacturer’s instructions.
3. Welding Qualification: Prior to welding, submit welder qualifications and nondestructive testing procedures in accordance with Section 05 05 23, Welding.
4. Test results of field testing.

1.03 QUALITY ASSURANCE
A. Welder Qualifications: Certified in accordance with AWS D1.4/D1.M.

1.04 DELIVERY, STORAGE, AND HANDLING
A. Unload, store, and handle bars in accordance with CRSI publication “Placing Reinforcing Bars.”

PART 2 PRODUCTS

2.01 MATERIALS
A. Reinforcing Bars:
   1. Includes stirrups, ties, and spirals.
   2. ASTM A615, Grade 60, where welding is not required.
   3. ASTM A706, Grade 60, for reinforcing to be welded.
   4. ASTM A767, Grade 60, for galvanized bars.
B. Mechanical Splices and Connections:
   1. Mechanical splices and connections shall only be used with written approval of the Engineer.
   2. Metal Sleeve Splice:
      a. Furnish with cast filler metal, capable of developing, in tension or compression, 125 percent of minimum tensile strength of bar.
      b. Manufacturer and Product: Erico Products, Inc., Cleveland, OH; Cadweld T-Series.
3. Mechanical Threaded Connections:
   a. Furnish metal coupling sleeve with internal threads engaging threaded ends of bars developing in tension or compression 125 percent of yield strength of bar.
   b. Manufacturers and Products:
      1) Erico Products, Inc., Cleveland, OH; Lenton Reinforcing Steel Couplers.
      2) Richmond Screw Anchor Co., Inc., Fort Worth, TX; Richmond DB-CH Dowel Bar Splicers.

C. Welded Wire Fabric:
   1. ASTM A1064 and ACI 318, using wire of 75 ksi minimum tensile strength.
   2. Furnish flat sheets only, rolled sheets not permitted.

2.02 ACCESSORIES

A. Tie Wire:
   1. Black, soft-annealed 16-gauge wire.
   2. Nylon-, epoxy-, or plastic-coated wire.

B. Bar Supports and Spacers:
   1. Use precast concrete bar supports or all-plastic bar supports and side form spacers, unless noted otherwise. Do not use other types of supports or spacers.
   2. Bar supports shall have sufficient strength and stiffness to carry loads without failure, displacement, or significant deformation. Space bar supports so minimum concrete cover is maintained for reinforcing between supports.
   3. Use only precast concrete bar supports or all-plastic bar supports where concrete surfaces are exposed to weather, earth, water, chloride intrusion, or corrosive chemicals. Bar supports shall be nonconductive and have geometry and bond characteristics that deter movement of moisture from the surface to the reinforcement.
   4. Precast concrete supports shall have same minimum strength and shall be made from same materials as that of the concrete in which they are to be embedded. Precast concrete supports shall be cast and properly cured for at least 7 days before use and shall have a wire or other device cast into each block for the purpose of attaching them securely to reinforcing steel.
5. Design and fabricate special bar supports for top reinforcing bars in slabs where standard bar supports do not possess necessary geometry, strength, or stiffness.

6. Plastic Bar Supports: Manufactured by Aztec Concrete Accessories, Bloomington, CA.

7. Precast Concrete Supports: Total bond precast high performance concrete bar supports as supplied by Con Sys Inc., Pinawa, MB, Canada.

2.03 FABRICATION


B. Bend bars cold.

PART 3 EXECUTION

3.01 PREPARATION

A. Notify Engineer when reinforcing is ready for inspection and allow sufficient time for inspection prior to placing concrete.

B. Clean reinforcing bars of loose mill scale, oil, earth, and other contaminants.

C. Coat wire projecting from precast concrete bar supports with dielectric material, epoxy, or plastic.

3.02 INSTALLATION

A. Bundle or space bars, instead of field bending where construction access through reinforcing is necessary.

B. Spacing and Positioning: Conform to ACI 318.

C. Location Tolerances: In accordance with CRSI publication, Placing Reinforcing Bars.

D. Splicing:

1. Follow ACI 318.
2. Use lap splices, unless otherwise shown or permitted in writing by Engineer.
3. Welded splices are not permitted unless otherwise shown or permitted in writing by Engineer.
4. Stagger splices in adjacent bars.
E. Mechanical Splices and Connections:
   1. Use only in areas specifically approved in writing by Engineer.
   2. Install threaded rods as recommended by manufacturer with threads totally engaged into coupling sleeve and in accordance with ICC Evaluation Services Report or equivalent code agency report.
   3. For metal sleeve splice, follow manufacturer’s installation recommendations.
   4. Maintain minimum edge distance and concrete cover.

F. Tying Reinforcing Bars:
   1. Tie every other intersection on mats made up of Nos. 3, 4, 5, and 6 bars to hold them firmly at required spacing.
   2. Bend tie wire away from concrete surface to provide minimum clearance of 2-1/2 inches from surface of concrete to tie wire.

G. Reinforcement around Openings: On each side and above and below pipe or opening, place an equivalent area of steel bars to replace steel bars cut for opening. Extend steel reinforcing a standard lap length beyond opening at each end.

H. Welding Reinforcement:
   1. Only ASTM A706 bars may be welded.
   2. Do not perform welding until welder qualifications are approved.
   3. Provide suitable ventilation when welding epoxy-coated reinforcing bars.
   4. After completion of welding on epoxy-coated reinforcing bars, repair coating damage, to welds area, and to steel splice members with same material as specified for repair of epoxy coating damage.

I. Straightening and Rebending: Field bending of reinforcing steel bars is not permitted.

J. Unless permitted by Engineer, do not cut reinforcing bars in field.

3.03 WELDED WIRE FABRIC INSTALLATION

A. Use only where specifically shown.

B. Extend fabric to within 2 inches of edges of slab, and lap splices at least 1-1/2 courses of fabric or minimum 8 inches.

C. Tie laps and splices securely at ends and at least every 24 inches with tie wire.
D. Place welded wire fabric on concrete blocks and rigidly support equal to that provided for reinforced bars. Do not use broken concrete, brick, or stone.

E. Follow ACI 318 and WRI WWR-500.

F. Do not use fabric that has been rolled. Install flat sheets only.

3.04 TESTS AND INSPECTION

A. An independent testing agency will be retained by Owner to visually inspect and test reinforcing steel welds in accordance with AWS D1.4/D1.4M as specified in Section 05 05 23, Welding.

B. An independent testing agency will be retained by Owner to inspect each mechanical splice and verify each component is installed in accordance with manufacturer’s instructions and ICC Evaluation Services Report or equivalent code agency report.

C. Special inspection will be provided by Owner as indicated on Drawings.

END OF SECTION